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WALTER REED HOSPITAL
WASHINGTON

The
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Vol. X

January, 1918

No. 1



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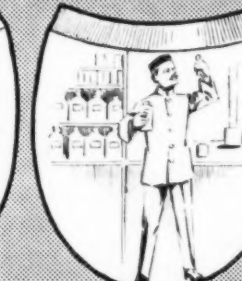
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THE MODERN HOSPITAL

A Monthly Journal Devoted to the Building, Equipment, and Administration of Hospitals, Sanatoriums, and Allied Institutions, and to their Medical, Surgical, and Nursing Services

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PATIENT LABOR IN HOSPITALS FOR THE INSANE*

**Methods Employed in Interesting Patients in Work—Parole Patients Distributed to Various Departments—Soap, Rugs, Clothing, Bandages, etc.
Made by Patient Labor.**

BY E. L. HILL, M. D., MANAGING OFFICER, JACKSONVILLE STATE HOSPITAL, JACKSONVILLE, ILL.

IN the fall of 1915 I was authorized to spend two weeks with Dr. Singer at the State Psychopathic institute at the Kankakee State Hospital to receive instruction in psychiatry. Among the number of good lectures by Dr. Singer, the one which was of special interest to me was the one on "Reeducation of the Insane."

After the lecture Dr. Singer took us on the wards and showed us a class of twelve or fifteen patients instructed by Dr. Clark. The great improvement which these patients had made was so striking that we immediately became intensely interested. This, coupled with the very interesting talks which it was my pleasure to have with Dr. Zeller, then state alienist, and with Mr. Bowen, present superintendent of institutions, led me to believe that we at the Jacksonville State Hospital were not doing all that could be done for our patients.

I came back from the Kankakee State Hospital with a determination to start some movement for the benefit of our patients. This subject was brought up before the medical staff and gone into exhaustively. We hit upon the idea of introducing calisthenics on the wards, as our patients, with the exception of those who were employed, were receiving but little exercise during the winter months outside the wards. Printed instructions, consisting of arm, foot, and body movements, were placed upon the wards, and the attendants instructed to see that these were carried out. We designated one hour in the forenoon and one hour in the afternoon, respectively. After

the patients had practiced these exercises for two months, we found that some of them were showing great interest in these exercises, in their surroundings, and in themselves, and seemed to be much happier, better contented, and less destructive on the wards, and in consequence became better disciplined. The ones who showed the greatest interest and seemed to be better fitted, both mentally and physically, were turned over to a detail man for employment.

The detail employee may be either male or female, but must be a graduate nurse or an attendant of long experience in handling and working patients. He is assigned to do some special work with his patients by the industrial supervisor under the direction of the management. The industrial supervisor is furnished by the doctor in charge of these patients a list of those who have shown greater interest in the exercises than the others; these go to make up the detail group. This group is called our ABC class.

As the members of this detail, or ABC class, show greater improvement they are given a ground parole, after having been passed upon favorably by the attendant on detail, the industrial supervisor, and the assistant superintendent. The doctor in charge of these patients is expected to go carefully into each patient's history and court records to ascertain if there is anything that would contra-indicate granting him this parole. After careful investigation and a favorable recommendation the patient's parole card is signed and given him and he is assigned to some duty or work, with instructions to report to the one in charge of his particular department.

*Paper read at the twenty-second annual Illinois Conference of Charities and Correction, Joliet, Ill., October 26, 1917.

After having received his parole card, which entitles him to the privilege of the grounds, if he develops into a loafer or refuses to work, the industrial supervisor has instructions to take up his card and place him back on the ward, referring him to the doctor who has charge of his ward, and, should the doctor find on investigation that there is no justification for his refusing to work, he is refused a parole and placed on the ward and again becomes a member of the ABC class or detail group. We found that it is absolutely necessary for a patient who has a parole to be employed or assigned to some department where he will receive the necessary supervision for the wellbeing of this patient; otherwise you will find your parole patients developing into non-workers and loafers by seeing some others who have the privilege of the ground parole and are not employed. It is absolutely necessary, if one wishes to maintain discipline and secure the goodwill and cooperation of the patients, to see that all are treated alike and have some duties to which it is necessary for them to give their time and attention.

In developing our industrial organization we tried out many ideas and plans with varied successes, and finally adopted the following: We selected one male and one female employee, calling them industrial supervisors, who were especially fitted for this particular work. It is their duty to visit each industrial department every day, and more frequently if necessary, to ascertain if they have their full quota of patient employees. Each industrial department is furnished with a time book, and the foreman or head of this department is instructed to keep a list of the patients employed in his department, with a monthly record of the number of days each patient is employed and the character and amount of work done by each individual patient, which record is given to the superintendent at the end of each month. It is, therefore, very easy for the industrial supervisor to check up each department and ascertain the number of patients daily employed, which he is expected to do and furnish the superintendent with a correct copy, also a list of the number of patients employed on detail work under the supervision of a detail man. We have found it absolutely necessary to check up each department daily if we wish to increase the number of patients employed, as we do not always get the cooperation in the different departments that we would like to have.

When a new patient is received in the Jacksonville State Hospital, in due time he is presented to the medical staff for classification. After classification a careful inquiry is made as to his mental

and physical fitness for employment, the kind of employment he would be most interested in or is best fitted for. His former occupation receives our careful consideration. To illustrate: if his occupation is given as a farmer, and other conditions suited, his name and a recommendation by his physician are given to the industrial supervisor, who assigns him to the farm department, where the farmer must give him supervision and instruction. If the patient has not progressed so far as to be entitled to a parole he may be assigned to a farm detail. Later on, if his improvement is such as to recommend it, he is again presented to the staff for parole of the grounds and assigned to the farm boss proper.

All of us, whether sane or insane, must have an incentive or an object to be attained, or we will not show the proper interest in our duties or the work assigned us, and we have found it to be advantageous in securing the cooperation of the patients to furnish all the workers, whether on parole or detail, as far as possible, a lunch at 10 a. m. which consists of bread, butterine, and coffee, varied with cake or pie occasionally. We believe the workers are entitled to and naturally require a greater amount of food than the non-workers. As far as we are able to do so, we have provided separate dining rooms for them where a larger, better, and more varied supply of food is furnished.

We have at the present time employed at the Jacksonville State Hospital every day except Sunday between one thousand and thirteen hundred patients. This does not include patients who are working on the wards. Very seldom we run below one thousand patients employed in the separate departments or on detail work.

The farmer has twenty-five patients assigned to him. He uses them in driving teams, keeping the barns clean, currying horses, and doing general farm work.

The dairyman has also twenty-five paroled patients assigned to him. They assist in milking, feeding the calves, currying the cattle, cleaning the barns, and in pasteurization and delivering the milk to the various kitchens. This farmer and dairyman have three paid employees also assisting them.

The gardener has assigned to him thirty patients, who, of course, are paroled patients. They assist him in sowing, planting, and cultivating the garden and in delivering the products of the garden to the various kitchens.

In the tailor shop in charge of one paid employee there are employed between thirty-five and fifty patients, consisting of parole and detail patients. In this department all the suits, over-

coats, caps, underwear, gloves, and mending, pressing, and cleaning are made and done. In connection with the tailor shop, under the supervision of the foreman, we have a shoe repair shop where all the shoes which are discarded or thrown out of the window are brought, and if it is possible to repair them it is done. The shoes that are not suitable for repair are torn down and the counters, soles, and other pieces are saved. Counters and soles are used in making canvas and carpet slippers. The other pieces, if suitable, are used for patches or building heels, etc. Suits which have been soiled and sent to the laundry are washed and sent to the tailor shop, where they are pressed, mended, and returned to the ward.

At the carpenter shop we have two paid employees (carpenters), who use six to ten patients doing repair work and manufacturing chairs, flyswatters, and various other articles.

In the mattress shop we have one paid employee who uses four patients. In this department all upholstering, renovating and making of mattresses is done.

In the bake shop we have one paid employee and ten patient assistants. All the pies, cakes, bread, etc., used in the institution are baked in this shop and delivered by the patients to the various kitchens in carts as needed. The patients who work in this department are all dressed in white.

In the laundry we have five paid employees, including the head laundryman, with sixty patient employees. The laundry is gathered up by patients after being washed and ironed and is delivered to the wards by patients. The clean clothing is placed in baskets and the ward marked on it and then hauled in carts by patients to the different wards. When a load is started to its destination the head of the sorting room calls up this ward and informs them that she is sending their laundry, which is left at the door. This is done to prevent them leaving the laundry outside indefinitely, which has happened, or being lost in some other department.

We manufacture a large amount of soft soap in the laundry, utilizing all the waste fats which accumulate in killing hogs and beeves; also if an animal dies, the fat is extracted and the other material used as fertilizer.

The butcher is instructed to cut out all the large bones, which are saved, together with those from the kitchens and dining rooms when we have roasts. These are used in making soups, and the bones are again saved and returned to the laundry, where the fats that are left in them are converted into soap and the lime deposits used as fertilizer.

From fifteen to twenty-five patients are employed in the boiler room shoveling coal and wheeling out ashes. These patients are under the direct supervision of a patient supervised by the engineer who is on duty.

In the weaving room we have one paid employee and from thirty to forty women patients. All the discarded clothing which is picked up by the patients, and cannot be used for blanket- or quilt-making, after being washed and taken to the weaving room, is torn into rags and woven into rugs. All ingrain or brussels rugs which are worn out and cannot be used by the shoe shop in making carpet slippers are cut up and woven into rugs.

The sewing room is in charge of one employee and sixty to eighty women patients, with eighteen motor-driven sewing machines. In this department we manufacture dresses, coats, petticoats, summer underwear, bonnets, gowns for both men and women, aprons, table cloths, sheets, towels, curtains, window shades, gloves, bath sandals, ticks for mattresses, and many other useful articles. The bath sandals are used in the hospital and hydropathic department. They are made from worn-out pieces of ticking. The other goods are made from new material, with the exception of the gloves and sandals, which are made from waste and discarded material from the sewing room.

We are occupying the chapel during week days for the fancywork class, in charge of one employee and consisting of two hundred to two hundred and twenty-five women patients. In this department patients are taught to do basket-weaving, and to make quilts, scarfs, and shawls, as well as to do various kinds of fancy work. Indian head and muslin are used instead of linen for fancywork for the wards; sewing thread is used instead of crochet thread for trimming, as it goes twice as far. Indian head and plain cotton muslin do not cost one-fourth as much as linen. These materials launder well and unless closely observed would be taken for linen.

The quilts are made from both cotton and worsted scraps. If possible, all calico, gingham, and muslin scraps, no matter how small, are made into quilts. The pieces of worsted left from the manufacture of suits and coats are also quilted double and make a very serviceable blanket. In some of the quilts padding is used from old worn-out pieces of dresses or other garments, which are matted together so as to make a smooth surface of two or three thicknesses, after the pieces have been thoroughly washed and cleaned. These are to be used also as blankets.

The scarfs for the head and shoulders are made

from the ravelings of both black and white cotton hose or pieces of worn-out knitted union suits, shirts, or drawers. Bandages for the entire institution are made in this department from old muslin sheets which have been washed and sterilized, torn into strips, and rolled into suitable sizes.

In the canning factory, where we employ during the summer and fall months a large number of patients, we can beans, tomatoes, corn, kraut, cucumber pickles, beet pickles, catsup, spinach, swiss chard, and chopped piccalilli, all of which is grown by the institution farmer.

The painting and decorating for this institution is in charge of one employee and fifteen patients. They do all the painting at the Jacksonville State Hospital, and are now doing work at the School for the Blind. The painter works two gangs, the one at the Jacksonville State Hospital being under the supervision of an attendant, which is necessary in order to have the patients receive the proper supervision. He need have no knowledge of the work, as the patients are quite efficient.

In the kitchens and dining rooms, and wherever it has been possible to utilize patient help, we have

done so. The more we study the situation the more firmly we become convinced that we at the Jacksonville State Hospital have done very little; and we look forward to the time when these unfortunate, handicapped wards of the state will receive the consideration due them.

At the present time the great thinkers all over the world are studying and thinking and trying to devise means and methods whereby the poor, unfortunate, handicapped victims of this present war may be taught to become more or less self-supporting and consequently happier after the war.

It is just and proper that this should be so, but we who have charge of these poor unfortunate, mentally handicapped charges of our state hospitals, twenty thousand in number, must receive our first consideration. What are we doing to assist them in carrying their heavy burden—to make them more happy and contented and somewhat self-supporting? Someone is going to step into the breach and show us the way, and whoever that may be he will be heralded as the emancipator of the insane.

THE DEVELOPMENT OF PRISON INDUSTRIES*

The Function of the Penal Farm in Educating and Reforming Prisoners—Various Industries That May Be Carried On by Convict Labor—Road-Making, Foundry Work, Shoemaking, Printing, Knitting, Weaving, Etc.

BY JOHN L. WHITMAN, SUPERINTENDENT OF PRISONS FOR THE STATE OF ILLINOIS, SPRINGFIELD, ILL.

THERE are many things to consider and much that should be done by the Department of Public Welfare if the best interests of the state are conserved in the management of its penal institutions. The state is concerned as to whether or not inmates can be handled in such a way or given such treatment as, in the wording of the law, will "prevent them from returning to criminal courses, best secure their self-support, and accomplish their reformation." This is a problem that confronts the department at this time.

It is acknowledged that it will be necessary to make use of all the facilities and resources available to bring about a solution of the problem. It is important that an intelligent study be made and an understanding had of general conditions that prevail in the institutions because of construction, location, etc., but it is vastly more important that not only an intelligent, but a scientific study be made of the individual inmates who make up the population of it, and how best they can be handled either individually or collectively. They should be studied from the viewpoint of the

criminologist, the alienist, and the physician, as well as by the official, all for the purpose and with the determination of preparing them physically, mentally, and morally for the proper sort of citizenship when they will no longer be a menace to society.

It must be remembered that practically all of them are sometime returned to society. If they have not been studied, understood, and properly appealed to while in the prison, they are returned no better than they were before, and possibly have been made worse or more desperate, and society suffers accordingly. In order to prevent this, the study of them should be extended so as to take into consideration their mental attitude as well.

In my opinion there is nothing that so effectually corrects, in the mind of the prisoner, a distorted viewpoint of life or of prison conditions as the right sort of employment. Work of the character that furnishes healthy occupation of mind and body is essential to inmates if the qualifications necessary to good citizenship are to be developed while they are in custody. This is somewhat due to the fact that many of them have never

*Paper read at the twenty-second annual Illinois Conference of Charities and Correction, Joliet, Ill., October 26, 1917.

acquired the habit of industry, and, consequently, have never been inspired by the wholesome thoughts entertained by those who through habits of industry have been successful, not only in the industrial field, but in the art of character-building, and are in reality teachers of the art in their home and in the community in which they live.

Those who have taken the pains to look back into the career of the average criminal know that his present status is largely due, first, to lack of proper training and environment in early youth, then later, to habits of idleness, which produce the rowdy. From rowdyism to hoodlumism is only a step, and then it is only a stride to criminality. The criminal goes to prison, not for life, as a rule, but, as the law intends, in order that he may be supplied with the knowledge and training that will make him a less dangerous member of society, and at the same time encourage him in the formation of habits of industry which lead to a contented mind and a correct mental attitude toward society.

Prison industries can and should be used as a means of assisting in the solution of the recognized problem of the reformation of convicts, as well as making them self-supporting and useful to the state while in prison. The Department of Public Welfare aims to and will develop prison industries with this thought in mind. The character of industries depends largely, if not wholly, upon the needs of the state. Practically all of the state institutions have more or less farm land connected with them, the work upon which is organized and developed with the idea in mind of giving employment to inmates as much as possible and of raising such produce as can be used by the institutions to the best advantage, making exchange between institutions so that the surplus of produce in one will supply the needs in another where there is an insufficiency, thus avoiding, if possible, the purchase by the state of supplies which their own land with the aid of inmates can produce. It is the purpose to promote, especially in the penal group of institutions, to a greater extent than has been done in the past, industries for the manufacture of such commodities as can be not only used in them, but furnished to meet the needs in the charity group and all of the others when consistent with economy and efficiency.

No one will question the propriety of listing farm work as one of the industrial features; in fact, often it proves to be one of the most profitable in a penal institution.

In connection with the penitentiary at Joliet there is a large farm, located about four miles from the present site of the prison, which not only furnishes opportunity for carrying on agri-

cultural pursuits, in accordance with the plan as here outlined, but, inasmuch as a portion of it has been selected for the site of a new prison, affords the opportunity of following industrial and mechanical pursuits under the most advantageous circumstances. During the construction of the new prison and the development of approved methods of conducting a penal farm, this part of the present Joliet penitentiary might be looked upon and considered as a separate unit, yet under the same directorship.

In making the assignment of inmates to the farm for the purpose of perfecting a proper organization to perform the work, consideration should be given the character of the inmates and the possibility of their qualifying in such a way as to make it reasonably certain that the organization can be used as a means of and opportunity for training and preparing the individuals so that they ultimately will be fit subjects for parole and later become good citizens.

A penal farm, with its lack of bars and walls, affording the lesson of self-control that can be taught in their absence, and with land sufficient and an opportunity given to divide the inmates into those following agriculture, industrial, or mechanical pursuits, will make it possible to carry out the intention of the law, which says: "Prevent them from returning to criminal courses, thus secure their self-support and accomplish their reformation."

Another section of the same statute provides and gives opportunity, not only for those from the Joliet prison who may need the benefits of this gradual and perhaps slow process of training and preparation for parole and good citizenship, but also for those who give promise of profiting by it from the other penal institutions. The section referred to provides for the transfer of inmates between institutions whenever the Department of Public Welfare has reason to believe that the best interests of the inmates will be conserved and the intention of the law observed.

In this way the farm and construction work, while being a part of the penal system and in reality a part of one of the prisons, yet will be to all intents and purposes a separate unit performing the functions that the prisons are supposed to perform, but in a different way and more effectually—in fact, finishing the work of reformation that the prisons did not have the facilities to complete in this particular class of cases.

The penal farm, with a group of inmates earnestly working out their salvation as here outlined, supervised by competent officials in hearty accord with the system of transfers between institutions and then to the farm until an intelligent classifica-

tion is made, would be the proper organization from which to draw the man-power to do road work on the state's highways.

Surely the state of Illinois needs to have this kind of work done, and the department sees no reason why it cannot be safely and economically done by inmates. It may be said that in order to perform good road work economically more or less machinery and equipment are needed; if so, let the inmates behind the walls of the penitentiary build that machinery and equipment, as the statutes provide.

Two of the penal institutions are now furnishing from their quarries the stone that is used in road construction work. The stone available in these quarries is as yet unlimited. The capacity of the crushers can be increased as the demand for stone justifies. The Southern Illinois Penitentiary already has a great demand for limestone dust, which is used quite extensively by farmers in treating the land that has become sour.

In the construction work that is continually going on, the institutions to some extent at least require stone. Also the state might profit by having the stone used in the manufacture of concrete material and shipped to points where needed; for instance, plain fence, ornamental posts of any kind, tile, or culvert pipe. At least one of the institutions finds suitable raw material for this work on its own land, also material for the manufacture of brick for building and other purposes.

Foundries in each of the institutions supply at least their own needs and are looking for the needs in other parts of the state.

Shoes are manufactured in one of the institutions and are furnished to inmates of all others. This industry, if extended, would have to look to the market for an outlet for its production.

Printing and bookbinding is a live industry at the reformatory. It is our aim constantly to increase its capacity until it meets the needs of the state and reaches its maximum as an influence and aid to the educational feature of that institution.

Two of the institutions are now manufacturing a limited amount of furniture and reed or fiber work, chairs, etc., a class of work that interferes to the least extent with free labor; possibly these commodities, if not manufactured with prison labor, would not appear upon the open market to any great extent, inasmuch as their manufacture by free labor would make the cost so high that there would be no demand for them. The state is coming to use some of this kind of furniture because of its being made by inmates and possibly it will be used to a greater extent.

The knitting factory at the Southern Illinois penitentiary manufactures socks and stockings

and supplies the needs of inmates in other institutions. This industry might well be extended, even though its products reach the outside market. No great harm would be felt or objections raised by anyone if all goods that our limited equipment could produce were placed upon the market. However, every effort is to be made by the department to find employment for all of the inmates and to send nothing to the open market. The various state institutions not included in the penal group present needs beyond their own capacity to supply. The penal group, with its vast amount of man-power that should be made as far as possible efficient and capable along mechanical lines, must be utilized by way of meeting those needs, instead of allowing that man-power in idleness to become rowdy and riotous.

Clothing of all kinds for inmates of state institutions should be manufactured by the state, each institution doing the part it is adapted to or has facilities for. The penal group with its surplus of labor should do the remainder. One of the group is already equipped and has been engaged in this kind of work with profit to the state and to its own advantage, in that employment was given to inmates that might otherwise have been idle.

But now we want to go a step farther and weave the cloth that the clothing is made of. This is what a good business concern would do if it was as large a consumer as the state is. It has labor that should be utilized and if not utilized is an expense to the state.

Blankets should also be made at the penal institutions. Thousands of them are used by the state in various ways and places, as also are all kinds of brushes, brooms, mops, fiber rugs; and we are not forgetting soap, which is used in large quantities.

Then, too, it can quickly be seen that the state uses many commodities manufactured out of sheet metal of various kinds, principally tin and galvanized iron. Sheet metal work makes a very good industry and could turn out not only cooking utensils, pails and buckets, fire extinguishers, cans, large or small, but automobile signs as well.

When serious thought is given to the possibility of promoting industries for state use in our penal institutions, there seems no limit to the extent we might go. We might even resort to coal-mining, inasmuch as one of our institutions is situated directly over two veins of coal. Then, why not engage in the repairing of apparatus, furniture etc.? Much of this in all public institutions is generally abandoned and replaced by new for the apparent reason that in the ordinary way the cost of repair would be prohibitive, but with the use of prison labor a big saving could be made, or the

necessity for the purchase of new avoided. And that leads me to the thought that there is great profit in the utilization of prison labor in conserving the value of waste material of all kinds in public institutions. However, I shall have to curb myself on this point, otherwise my enthusiasm in regard to it will give this paper too great a length.

Whatever is done by way of promoting industries in our state institutions, we should not fail to recognize the fact that our whole prison system

(the industries being a part) should be like a great factory operated for two purposes: the first being to make men out of broken, twisted lives, and the other to manufacture commodities out of raw material for state use. Then there will be the possibility of perfecting the system so that the thought of providing compensation to relieve needy deserving families of prisoners, or the prisoners themselves when released, would not only be justified, but practical.

MARINE HOSPITAL SANATORIUM, FORT STANTON, NEW MEXICO

United States Public Health Service Is Developing an Effective Agency for the Cure of Consumption Among Merchant Marine and Fresh Water Sailors—A Hospital That Must Depend on Its Own Resources

BY OUR SPECIAL CORRESPONDENT, WASHINGTON, D. C.

FORT STANTON is situated on the Rio Bonita, a mountain stream rising in the White Mountains, at an altitude of about 7,000 feet. The post was established in 1855 to control the Mescalero Apaches. The valley of the river at the site of the post is from one-half to three-quarters of a mile wide. Its banks ascend gradually until the plain of the valley is reached, which at the site of the old post is about 75 feet above the bed of the stream. The geological formation exhibits outcroppings of new red sandstone and magnesia limestone. Gold is found in limited quantity in the Jicarillo Mountains, northwest, distant about thirty miles from the post. Pines, cedars, and cottonwoods abound.

The marine hospital service, which since 1798 has been treating the American seaman for his various ills, acquired the deserted army post in 1899 and fitted it up as a sanatorium for its consumptives. The beneficiaries of the public health and marine hospital service are seamen from American merchant vessels, uninformed wanderers from ocean freighter, fishing smack, and river steamer—men who have never borne their country's arms, but who have served her well nevertheless.

Fort Stanton is isolated, and is thirty miles from a trunk line and eight from a cowtown terminus of a branch road running two trains per week. It is dependent on its own resources for its electric light, ice plant, laundry, abattoir, and water supply, and has its own post office and telegraph station, telephone system, and fire protection, its own architect, electricians, engineers, plumbers, gardener, and cowboys. The efficiency of this sanatorium is steadily growing, and the capacity can be increased indefinitely.

The water power available will, when utilized,

save thousands of dollars' worth of coal that is now annually consumed for power purposes. The reservation's forty-five square miles of range are capable of supporting 2,000 head of cattle. The beef herd now consists of nearly that number, and furnishes the sanatorium with beef, while the dairy herd furnishes the milk. Poultry raising is another industry that has been developed, and it is expected that eventually enough poultry will be raised to furnish eggs and fowl for the institution. Hog raising has assisted in reducing expenditures for pork products. The cost of a daily ration per man is from 40 to 45 cents; and the consummation of the plans mentioned above will reduce it to a point unattainable by the ordinary institution.

The patients are given constant care, encouraged and amused, protected from their own irregularities, and guarded from the carelessness of others. They are made to live and sleep in the open.

Tents and tent-houses, each accommodating two, shelter the majority of patients. The men choose tent mates, and develop a home spirit in their canvas abodes. Here they find privacy, subject to no interruption so long as order and an open tent are maintained. They decorate their homes, inside and out, according to individual tastes. Here is an amateur photographer whose tent is a veritable studio; yonder one of more plebeian taste, with a carefully tended patch of lettuce and young onions beside his door. This man has planted a tree to windward and a few stalks of corn, "just to watch them grow;" that one breeds pigeons in a little cote elevated on a pole, and eyes with suspicion his seaman neighbor's cat. As with village boys, their amusements run in periods. When the irrigation ditches are first filled in the spring, water-wheels of jack-

knife construction appear and miniature mills of various kinds. Again, the fad will be the making of cactus canes, or dressing horns, or the snaring of mocking-birds; and when the fishing fever is on, the assistant surgeon in charge of ambulant sick call knows just how they feel, includes in his

pay roll as waiters, etc., some earning by private employment by officers, and some by such enterprises as shoemaking, barbering, dressing furs, and repairing clothes. A cured case who, on being discharged as a patient, desires to remain in New Mexico is given preference among applicants

for employment, and of the sixty attendants many are recovered consumptives; some of these work for a few months, trying their strength and earning money to begin life anew, and some remain for years from love of the country.

The adventurous spirit may still find solace here. There is a cave on the reservation still unexplored in its entirety by civilized man, for after traveling in a half day's journey he remembers that it is a half day's journey back, and that he is already tired. There may be treasure there — traditions so affirm; there may be another opening —

liberty list everyone with a pulse rate below 80, and goes along himself. The patients have a pool table outdoors and a billiard table in a room from which windows have been removed. They may play cards outdoors, croquet, and quoits. Carefully selected cases are allowed to play ball and to go camping in the mountains, ten to thirty miles away. Golf they do not understand, as is evidenced by the boast of one patient who returned from the links breathless, but triumphant, announcing that he had made the course in "thirty minutes." There is a library of 2,800 volumes, from which 5,760 numbers were drawn last year. The amusement hall, in which concerts and amateur theatricals are given for the patients once or twice a month, is open during the day for a reading room. It is well supplied with newspapers and periodicals, while five large double doors on each side, extending from floor to ceiling, throw the room well open to the air. About fifty patients whose disease is well under control are allowed to do light work a few hours daily, but they are given the usual bimonthly physical examination and a special weekly quiz. These men earn from \$10 to \$30 apiece monthly, some being on the regular

the Indians are said to have known it, but the discoverer of either is still unhailed. There is good quail and pigeon shooting on the reservation, and a day in the mountains is occasionally rewarded by a deer, wild turkey, bear, or wildcat. Few places east or west are more favored by birds of song.



Fig. 1. Marine Hospital Sanatorium, Fort Stanton. General view.



Fig. 2. Marine Hospital Sanatorium, Fort Stanton. Pilots' and engineers' tents.

Patients in all stages of the disease are admitted to this sanatorium. Refined methods for early diagnosis employed in the thirty-five marine hospitals located on the various coasts and rivers of the United States have led to an improvement in the character of the cases sent out, but the sailor is careless of himself, and it is difficult to convince

him that an incipient tuberculosis which does not cause him pain—which may, indeed, be unaccompanied by cough or any other constant symptom—is a serious thing. He is unwilling to abandon his vocation for many months to get well of something which he is only half convinced he has. Too often he returns to sea, and reappears months or years afterward broken in health, a far advanced case of tuberculosis. Cases early diagnosed coming to the sanatorium usually get well, and return to active life, with pleasant memories of the



Fig. 3. Marine Hospital Sanatorium, Fort Stanton. View on square.



Fig. 4. Marine Hospital Sanatorium, Fort Stanton. House tents.

days when they took the cure out west. The far advanced case has a long battle to fight, with many discouragements to meet, and the process of getting well is to him so serious that most pleasures are denied. There is more profit to the state in returning a quickly cured and sanatorium-trained case to active life than in prolonging in constant fight the life of an individual hopelessly crippled by disease, but the function of the sanatorium is fulfilled both in cures and partial cures, and in the protection which the public receives in thus isolating a large number of bacilli-bearing individuals.

The commanding officer is Surgeon F. C. Smith, U. S. P. H. S., and his assistants are Passed Assistant Surgeon F. H. McKeon, Assistant Surgeon John S. Ruoff, Acting Assistant Surgeons Frank O. Barrett, Harry P. Reid; James W. Rawls, chaplain; G. G. Frund, pharmacist; Harri D. Leech, acting dentist; C. R. Irby, all of the United States public health service.

Grumbling the Unforgivable Sin

On this text Miss Violetta Thurston, in her "Text-Book of War Nursing," preaches a concise sermon of rare wisdom. It is good, not merely for nurses at the front, but for nurses at home; not merely for nurses, but for all the rest of us. Here it is:

"And sisters should remember always that the nearer the front, the stricter the rules, and grumbling is the unforgivable sin. Avoid it like the plague. The smallest grouse must be carefully repressed, for it grows on one more rapidly than any other disease; it is, moreover, highly infectious to others. What if the coffee is cold and your bed damp? Get them rectified another time if possible, but never cherish a grievance. Remember how many people there are who would cheerfully give all they possess to

be in your place. Remember how much you wanted to go to the front, how you felt you could endure any discomforts, any dangers, if only you could be accepted for the post of honor. Remember with what high ideals of service you started out. Perhaps you thought being 'at the front' would mean being up to the elbows in blood for nights and days, helping at operations and dressing wounds, bombs and shells dropping all round you, sleeping when you slept at all on straw on the ground. Some or all of these things may happen, and if they do, you will find them much easier to bear than the small grievances, the long days with nothing to do but stand by and be ready, as sometimes happens, or sleeping in a room or tent with several others who do not share your views on ventilation. A cheerful spirit is the greatest asset that a sister on active service can take with her."

The *Cleveland Plain Dealer* tells a yarn of a young man who had been reading medical literature and got to imagining all sorts of things were wrong with him. He went to a doctor who gave him some tablets, after telling him he had a bad case of "pernospera." The young man had to go to a public library before he could run down the word's definition. Finally he found it as follows: "Pernospera—A blight that attacks the bean." That cured him.

THE ELEMENTARY TERMS OF NUTRITION

The Meaning of Protein, Fat, Carbohydrates, and Calories—Their Application to Familiar Diet Preparations.

By JOHN PHILLIPS STREET, CHEMIST, CONNECTICUT AGRICULTURAL EXPERIMENT STATION,
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THE ignorance of many physicians—even hospital dietitians—concerning some of the most elementary principles of dietetics would be amusing were it not so appalling. A few years ago, when I published my first report on diabetic foods, I received numerous letters which illustrated this ignorance. For example, the head nurse in one of the largest and most important eastern hospitals wrote that she did not quite understand my tabulated analyses, and inquired whether she could not obtain the total carbohydrate content of the various foods by adding together the columns marked "nitrogen-free extract" and "starch." The fact that such a method would yield 150 percent of carbohydrates in rice and about 125 in wheat flour was no deterrent to this "dietitian." Of course, in most of our hospitals the nurses, and even the physicians, know that starch is a carbohydrate; most of them know that egg-white, milk casein, and wheat gluten are proteins; and probably all of them know that butter, lard, and oleomargarine are fats. It is to be feared, however, that even yet in hospitals the term "calorie" is more or less of a mystery; certainly it is little understood in lay circles.

The layman who pretends to any appreciable amount of education would be quite ashamed to admit his ignorance of the meaning of such terms as "pound," "quart," "gallon," or even "cord" (as applied to wood). In rather more intelligent circles the terms "ampere," "volt," or "kilowatt" would have some definite meaning. Probably in any group of intelligent men today someone would be found who could discuss with authority the points of excellence of the various motors, of the different brands of gasoline or lubricating oils, or of the numerous makes of automobile tires. Others might have the most complete understanding of even very complicated machines, knowing the importance of each tiny lever, bolt, and screw. But when the greatest of all machines, the human body, is considered, the densest ignorance would be found to prevail, and the unfortunate one who dared to mention proteins, fats, or carbohydrates would be instantly hailed as a food-faddist, and were he so rash as even to whisper "calorie," at once would be set down as a pedant of the worst type.

Surely such a state of affairs is hard to understand. The physician, the nurse, the dietitian, and

the chemist, as a rule, when considering diet abandon such abstractions as bread, potatoes, milk, butter, and beef steak, and think only in such concrete terms as protein, fat, carbohydrate, and calories, with perhaps occasional emphasis on such recondite phrases as vitamins, food accessories, fat-soluble A, or fat-soluble B. While it is granted that at the present time these last-named terms express a rather indefinite concept, for which with our present knowledge we cannot assign a more satisfactory terminology, there seems no valid excuse for even the layman's ignorance of the ABC of dietetics.

For several years Prof. Graham Lusk has argued that our food labels should bear a statement of the calories yielded by a definite quantity of the food in question, indicating at least the proportion of this calorific value yielded by the proteins of the food. Lusk's argument, I believe, will more and more prevail, and to me the time seems not far distant when all intelligent consumers of food will realize that their foods possess value only so far as they yield protein to repair or build tissue, or carbohydrates and fats to furnish energy or fuel to the body. Soon, too, they will appreciate that the calorie is simply a term expressing the fuel value of the various foods. While they may forget that lexicographically a calorie represents the amount of heat necessary to raise the temperature of 1 kilogram of water 1 degree Centigrade, or, what is the same thing, 1 pound of water 4 degrees Fahrenheit, they will gradually learn that the most important function of a food is measured by the calories it will yield when burned in the great human engine. They will realize that milk is valuable as a food, not because it is milk, and that wheat bread is nutritionally desirable, not because it is bread, but because these foods yield 314 and 1,174 calories per pound, respectively.

Quoting Graham Lusk, "A celebrated school mistress once asked that a book be written which would tell her what apple sauce was without introducing the terms protein, carbohydrate, and fat. Alas, that is impossible. It would be like teaching architecture without mentioning brick, granite, and marble."

Granting the necessity, therefore, of using these terms, the consumer of food should also realize that these unfamiliar words are not difficult of

comprehension, and are in reality expressions for groups of substances with which he is quite familiar.

Food is useful to the body only so far as it supplies either tissue-building material or fuel for the development of energy. The proteins, the fats, and the carbohydrates are food elements simply because they perform one or both of these functions.

PROTEIN

Protein is a complex substance, of which nitrogen is a characteristic ingredient, so that we commonly speak of protein foods as nitrogenous foods. Its main purpose in nutrition is to produce tissue and thus either promote growth in the young or maintain weight in the more mature. It is the essential constituent of all meats, fish, and eggs; it is an important ingredient of milk, and mixed with fat makes up most of the substance of cheese. The white of eggs, the curd of milk, lean meat, and the gluten of wheat are types of protein. Important sources of protein are lean meat, fish, eggs, milk, cheese, dried beans, and dried peas.

The source of the protein is of much importance. Thomas has shown that the relative nutritional value of proteins based on their origin is as follows:

Meat protein.....	100	Bean protein.....	56
Milk protein.....	97	Bread protein.....	40
Rice protein.....	88	Corn protein.....	30
Potato protein.....	80		

The proteins from animal products, such as meat and milk, are, therefore, more valuable than those from vegetables, and among the vegetables themselves great differences exist.

For this reason milk or meat, in moderate quantities, must make a part of the daily ration, especially that of children.

FATS

The term fat requires but little explanation. The familiar foods, butter, lard, olive oil, cottonseed oil, consist entirely or almost entirely of fat. The purpose of fat in the diet is to serve as fuel to yield energy in the form of heat or muscular power; part of it is also often stored in the body as body fat. Important sources of fat are butter, milk, cream, cheese, oleomargarine, lard, cottonseed oil, and other vegetable oils, many nuts, and certain fish, such as salmon.

Fats as a rule are a costly part of the ration, much more so than that other group of energy-producers, the carbohydrates.

CARBOHYDRATES

The carbohydrates are compounds consisting of carbon, hydrogen, and oxygen. The commonest forms are the starches and the sugars, which are

pure carbohydrates. While starch and sugar are physiologically practically identical, chemically they are quite different, so that a general name is necessary to cover both these and allied products. While there are other carbohydrates, for general purposes it is quite safe for the consumer to think of the carbohydrates in his foods as being either starch or sugar.

The function of the carbohydrates is very similar to that of fat, namely, either they produce energy, that is, are fuel foods, or they are transformed into fat for storage in the body. Besides sugar and starch themselves the most important sources of carbohydrates are our staple starchy foods, such as rice, potatoes, bread, beans, macaroni, and corn. These all contain protein as well, and some fat, but their main constituent is starch, which when changed into sugar is just as much fuel for the body as gasoline is for the automobile.

To summarize what has already been said: generally speaking the food we eat serves two functions; the protein maintains and repairs the tissues of the body, the fats and the carbohydrates furnish fuel to the body engine that life may continue. When supplied in excess, the protein also serves as a fuel.

THE CALORIC VALUE OF FOOD

In the destruction of these food elements in the body, heat is generated, and a measure of the amount of heat thus supplied indicates the value of the food as a means of keeping the body warm, of maintaining the action of the heart, lungs, kidneys, and other organs, and of enabling the performance of muscular work. An elaborate machine, called the calorimeter, has been devised to measure the actual amount of heat evolved by the various foods. Many careful experiments with a wide range of foods have shown that an ounce of pure carbohydrate or pure protein will yield 113 heat units, and an ounce of pure fat 225 units, or, in other words, a given amount of fat has 2.25 times as much heat value as the same amount of either protein or carbohydrate.

This unit of heat measurement is the calorie, and may be defined as the amount of heat required to raise the temperature of 1 pound of water 4 degrees F.¹

It has been found that 1 gram of either protein or carbohydrate yields 4.1 calories, while 1 gram of fat yields 9.3. For all general purposes these values may be simplified to 4 and 9, respectively, and with a knowledge of the percentage composition of any food the calculation of its fuel, or calorific, value is a simple matter.

For instance, milk contains 3.3 percent protein,

¹Or the amount of heat necessary to raise the temperature of 1 kilogram of water 1 degree C.

4.0 percent fat, and 5.5 percent carbohydrates. One hundred grams would yield, therefore, $3.3 \times 4 + 5.5 \times 4 + 4.0 \times 9 = 71$ calories, and 114 grams ($=\frac{1}{4}$ lb.) 81 calories. In the same way wheat bread, which contains 9.2 percent protein, 1.3 percent fat, and 53.1 percent carbohydrates, would yield in 100 grams $9.2 \times 4 + 53.1 \times 4 + 1.3 \times 9 = 261$ calories, or 298 calories per quarter pound.

It is well known that any ordinary machine requires more fuel when it is in action than when at rest, and the same is true of the human body, increased activity, muscular work, requiring more fuel; or, in other words, more food. It is apparent, therefore, that the number of calories necessary to be yielded by the daily ration will vary with the nature of one's physical activity. The age, sex, and weight of the individual also have an influence on this demand, but these need not be discussed at this time.

A very large part of our adult population sit at their desks all day, or watch machinery, and their physical exercise is limited to the walk from home to office or factory. In this group are included physicians, teachers, and other professional men, clerks, accountants, etc. These require a daily supply of 2,500 calories. Those who stand at their work, such as bakers, dentists, shop-keepers, car conductors, etc., require about 3,000. If the muscular work be constant, as with carpenters and painters, a supply of 3,300 calories is needed, while farmers require 3,500, stone masons 4,500, lumbermen 5,000 calories, and so on.

Table I summarizes these calorie requirements from the standpoint of age and of occupation.

TABLE I. CALORIES REQUIRED DAILY

Based on age		Based on occupation	
1 year	950	Clerk at desk	2,250
2 years	1,100	Professional man, machine watcher	2,500
2-4 years	1,300	Light muscular work	2,800
5-6 years	1,400	Bakers, dentists, shop-keepers, conductors	3,000
7-10 years	1,500	Carpenters, painters	3,300
11-14 years	1,600	Farmers	3,500
15-16 years	2,100	Excavators	4,000
17-18 years	2,250	Stonemasons	4,500

It must be clearly understood, however, that a ration may contain the proper number of calories and yet be a very poor ration if the protein, fat, and carbohydrate are not supplied in proper relative amounts. For instance, 0.7 pound of butter or 1.2 pounds of American cheese, or 1.3 pounds of sugar, would each yield 2,500 calories, yet it is apparent that none of these foods used alone, even in these amounts, would constitute a proper ration.

Physiologists tell us that the normal man of sedentary habits, or performing light labor, should receive each day 2.6 ounces of protein, 1.8

ounces of fat, and from 14 to 18 ounces of carbohydrates, yielding 2,500 calories. In compounding rations it is quite necessary to keep these relations in mind.

A PROPERLY BALANCED DIET

The average American dietary contains an excess of protein; that is, we eat, and in the body destroy, more protein than the body needs for repairing its tissues. This excess protein has no greater fuel value than so much sugar and starch, and when we remember the difference in cost the great economic waste in this excess consumption of meat and other protein foods is apparent. A properly constituted ration should contain from one-eighth to one-sixth of its calories in protein.

A typical ration containing 1,000 calories is given by Lusk as follows:

	Ounces	Calories
Cooked Beans	7 $\frac{3}{4}$	400
Pork	1	234
Bread	2 $\frac{1}{2}$	180
Butter	$\frac{1}{2}$	103
Milk	5	100
Coffee	5	...
Total		1,017

In this ration the protein yields nearly one-sixth of the calories, and the balance is therefore correct. In normal times such a ration would supply one-third the daily need of a man at light work at a cost of 4.25 cents, including the cost of fuel. It illustrates how cheaply it is possible for one to supply his body with all of the needed nutriment when normal prices prevail.

Now, how shall this knowledge of calories be applied in the preparation of the daily meal? It would be most fortunate if tables showing the composition of our staple foods could be in every home. However, even were this the case, in all probability many would have great difficulty in making the proper calculations.

Gephart and Lusk have greatly simplified this problem. Their extensive study of the standard portions served in a series of chain restaurants in New York City gives us just the data we require. It is quite probable that these portions represent pretty closely the amounts served in the average homes, and therefore, will prove a useful guide in the making up of rations and in the substitution of cheaper for more expensive foods.

Table II is an abridgment of their tables, somewhat simplified and recalculated in common terms. The first column gives the food served, an asterisk (*) indicating that bread and butter and potatoes were served with it, and the dagger (†) that bread and butter were served; the second column gives the approximate weight of the portion in ounces; the third column, the calories yielded from the protein in the proportion; the

fourth column, the total calories yielded; and the last column, the number of these standard portions necessary to secure the 2,500 calories needed daily by the man of sedentary habits or indulging in only light work.

TABLE II. CALORIES YIELDED BY STANDARD PORTIONS OF FOOD

Food	Weight, ounces	Calories		Portions
		Protein	Total	
Apple, baked.....	4	1.4	137.2	18
Apple, baked, and cream.....	8	5.8	393.7	6
Bacon, broiled *.....	6.5	70.2	760.8	3
Bacon and eggs *.....	8.5	148.1†	818.1	3
Bananas, sliced.....	3.5	5.6	91.5	27
Beans, Boston baked †.....	9	102.1†	509.4	5
Beef, corned beef hash, with poached egg †.....	6.25	157.3†	680.0	4
Beef, corned beef hash, browned †.....	7	97.5†	538.3	5
Beef, creamed, chipped †.....	10	100.1†	536.3	5
Beef, roast, cold †.....	5.5	155.7†	464.2	5
Beef roast, and mashed potatoes †.....	10.5	141.8†	539.6	5
Bread and butter, ¼-in. slice, 1 teaspoon butter.....	2.75	28.0	202.0	12
Bread, hot corn.....	5.5	60.5	474.1	5
Cakes, wheat, and syrup.....	6.5	40.9	476.2	5
Cantaloupe.....	4.5	4.1	37.4	69
Chicken croquette and French fried potatoes.....	6.5	77.5†	499.7	5
Chicken hash †.....	6.5	97.1†	468.1	5
Cocoa.....	9	32.9	256.7	10
Codfish, creamed on toast†.....	9.5	155.6†	567.8	5
Coffee, cup, cream and sugar.....	11.5	27.5	202.9	12
Corn, stewed.....	2.5	7.0	54.5	48
Corn flakes and milk.....	9	54.7†	237.5	11
Corn starch, with cream.....	6	27.4	239.3	11
Crackers, graham.....	2	21.4	230.1	11
Crackers, soda and milk.....	10.5	71.6†	397.4	6
Cream.....	8.5	35.5	515.9	5
Cream of wheat.....	7	32.9†	135.2	19
Crullers.....	4	46.0	457.0	5
Custard, cup.....	7	53.4†	234.1	11
Eclair, chocolate.....	2.5	19.2	193.4	13
Eggs, boiled (2)†.....	4.5	92.8†	391.0	6
Eggs, creamed, on toast.....	19	146.6†	663.9	4
Eggs, fried (2)†.....	6	105.8†	527.8	5
Fish cakes and poached egg †.....	9	129.5†	603.8	4
Frankfurters and potato salad †.....	10	114.0†	619.8	4
Grape fruit.....	7	6.3	79.0	32
Ham, broiled *.....	9	158.0†	936.7	3
Ham and eggs *.....	10	181.9†	842.6	3
Ice cream, vanilla.....	5	21.9	233.7	11
Lamb chops (2) *.....	5.5	146.5†	852.9	3
Liver and bacon *.....	9	177.5†	797.2	3
Macaroni and cheese †.....	9	69.5†	382.8	7
Maple flakes, with milk.....	9	64.0†	283.4	9
Milk.....	16	79.0†	312.8	8
Muffins, corn.....	3.5	35.9	352.3	7
Oatmeal and cream.....	10	47.1	396.3	6
Omelet, plain †.....	6	117.2†	529.5	5
Oysters, raw.....	3.5	32.0†	64.9	40
Pie, apple.....	5	20.9	343.1	7
Pie, mince.....	6	45.9	401.1	6
Potatoes, French fried.....	5	31.8	329.8	8
Pudding, bread custard.....	7	56.8†	371.4	7
Pudding, rice, cold.....	8	43.6†	275.4	9
Pudding, apple tapioca.....	8	29.4	225.5	11
Rhubarb, stewed.....	4	4.0	95.0	26
Rice, boiled.....	6	17.0	135.6	18
Salad, crab meat †.....	8.5	140.9†	437.7	6
Salad, potato †.....	10	50.9	448.3	6
Sandwich, club.....	4.5	111.3†	438.6	6
Sandwich, fried egg.....	5	59.8†	276.0	9
Sandwich, ham.....	2	48.4†	212.1	13
Sandwich, roast beef, hot.....	3.5	69.3†	263.9	9
Sandwich, Swiss cheese.....	2	51.5†	258.5	10
Sausage, country.....	3	57.6†	243.9	10
Sausage and fried potatoes.....	6	71.5	521.7	5
Shredded wheat and cream.....	6	56.4	494.5	5
Shredded wheat and milk.....	10	81.2†	404.5	6
Soup, bean, with croutons.....	10.5	42.5†	180.8	14
Soup, split pea †.....	9	45.9†	241.1	10
Soup, vegetable †.....	9.5	35.1	206.1	12
Steak, Hamburger *.....	10	147.9†	723.8	3
Steak, small *.....	10	237.5†	1032.8	2.5
Stew, beef †.....	16.5	148.4†	641.4	4
Stew, lamb †.....	15	146.8†	622.2	4
Toast, buttered.....	2.5	42.7	311.3	8
Toast, milk.....	8	59.4†	333.5	8
Tomatoes, sliced.....	5	6.7†	32.2	80
Tomatoes, with lettuce.....	4.5	8.2	52.1	50
Veal cutlet and tomato sauce †.....	13	177.8†	897.8	3
Watermelon.....	38	27.6	244.3	10

*Potatoes and bread and butter served.

†Bread and butter served.

‡At least 15 per cent of the total calories derived from protein.

Two important points must be kept in mind in using this table. A considerable portion of the protein in the ration should come from animal

sources, such as meat, milk, fish, or eggs, and about 15 percent of the total calories should be derived from the protein. The name of the dish will generally indicate whether animal protein is present, and in the protein calories column where at least 15 percent of the total calories is derived from protein italics are used.

To illustrate the practical use of the table: Portions of Boston baked beans, cold roast beef, codfish on toast, two fried eggs (all served with bread and butter), and cream, wheat cakes with syrup, and crullers, all yield about 500 calories per portion, and approximately five portions of each of these would be necessary to supply the daily requirement of 2,500 calories. These seven foods may be divided into two groups. The first four all secure at least 15 percent of their calories from protein, and in all but the baked beans this protein is chiefly from an animal source; the last three foods are all deficient in protein. It is obvious, therefore, that cold roast beef, creamed codfish, and fried eggs might be interchanged in the daily ration without disturbing the balance and at the same time supplying proper nutriment. In other words, five portions of any of these three foods served with bread and butter would provide adequate food for the daily need. Five portions of baked beans would not do this, for, while the nutriment would be sufficient, no animal protein would be supplied. Five portions of either cream, or wheat cakes, or crullers, would be unsatisfactory because in each case too little protein would be provided.

It is obvious, of course, that the calorific value of any food is dependent upon its composition. While thousands of food analyses have been published, usually these are not available to the general public. The excellent compilation of Atwater and Bryant is classic in respect to its completeness and accuracy, but the twenty years covered since its preparation have witnessed increased accuracy in methods of analysis, and the introduction of many new foods. Furthermore, improved processes of manufacture have not only yielded foods of better quality, but also, in some cases at least, foods quite different in composition from those sold under the same name twenty years ago.

In this series of papers I have tried to supply some of the lacunae shown by Atwater and Bryant's compilation, especially in relation to the different brands of manufactured foods. In this and succeeding papers I wish to direct attention more particularly to the calorific value of certain typical foods. The great European war, in which this country is assuming a more and more active part, will probably have an important influence on the

dietary habits of the people of the United States. Experience has shown that it is seldom desirable to make too radical changes in such habits. On the other hand, there are numerous ways in which our dietary regime may be modified without too severe a disturbance of our habits. To do this, however, intelligently and with a justified expectation of receiving the best results requires a

clear understanding of the nutritional and calorific value of the foods in question.

This paper, introductory to the subject, has dealt with the elementary terms of nutrition, and applied them to some of the familiar dishes found in every home. Later papers will study in more detail the various groups of foods, especial attention being directed to the use of substitute foods.

THE KANSAS PUBLIC HEALTH CAR

Progressiveness of the State of Kansas in Public Health Matters—The Message of the Kansas Board of Health Carried Direct to the People—Interest and Enthusiasm Aroused Among the Public

By EDITH D. HERTZLER, R. N., HALSTEAD, KAN.

NOT alone for its campaign that led to the abolition of the public drinking cup or its slogan "swat the fly" is Kansas known in public health matters. The Kansas Public Health Car, although started on its journey only the second of January, is attracting wide-spread attention.

Kansas also has a Public Health Nursing Association and a greater demand for public health nurses than can be met, and it was in response to this need that the Kansas Public Health Car came into existence. The state board of health realized that only by going direct to the people with its message could the individual and community

town with a population of 200 and above. A stay of one to four days, depending on the size of the place, is made at each stop.

The car contains exhibits representing the various phases of the state board of health work, special emphasis being placed on the child-welfare and tuberculosis exhibits. Two public health nurses and an assistant accompany the car and lecture on the various exhibits.

"But does the Public Health Car really educate—does it help solve the individual problems?" I have been asked again and again, my interlocutors being, it is needless to state, individuals who have not had—or have not made—the opportunity to visit the car. To gain first-hand information, I accepted the invitation of the public health nurses in charge of the car, to spend a day with them. The car at this time was touring the western part of the state over the Union Pacific lines. I arrived in the worst wind and dust storm that had visited the country in years. Despite the unfavorable day, a long line of motor cars, drawn up on either side of the car, attested to the prosperity of the country as well as the interest in the exhibit.

I joined a prosperous-looking farmer and his wife who had just parked their big touring car, and to get their viewpoint I asked:

"What is the purpose of this exhibit?"

"O, some new-fangled way the Board of Health has hit upon to spend our tax money," he replied. The wife smiled and added:

"Just because it is not dispensing advice on farm matters exclusively, my husband thinks it can't be any good; but I tell him just wait until he's been inside. I was here this morning," and her tone left no doubt as to whether or not she considered it "any good."

The large crowd inside almost blocked the way, but the door opened far enough to permit us to



Fig. 1. "Warren," the Kansas Public Health Car. The car is named Warren as a memorial to the son of Dr. S. J. Crumrine, secretary of the State Board of Health, who died in China, February, 1916.

problems be solved. But no funds were available for the purchase of a car for this purpose. Accordingly, application was made to the Pullman Company for the loan of a car that might be fitted up with an exhibit and sent out under the management of public health educators. The Pullman Company not only generously donated a car outright, but also made such alterations and repairs as were necessary to adapt it to the purpose, the total expense being about \$1,000. The various railway companies in the state very willingly consented to transporting the car free of charge. Between January 6 and May 28, sixty-nine cities and towns were visited. A stop is made at each



Fig. 2. Interior of Public Health Car. On one side is shown a section of the tuberculosis and child welfare exhibit. In the foreground is pictured the feeding table advocated for the use of children as soon as old enough to take to the table. It is especially desirable, as the child sees only such articles of food as are intended for its own use; the temptation to give it "just a taste," experienced by so many mothers, is not present; neither does the little one cry for food unsuited to its age. A convenient play-pen is shown near by, on the floor of which is a washable pad, which serves the purpose of a "shock absorber," as it were, not only preventing bumps and bruises, but also protecting the little one from the cold floor. In the background of this picture is shown the miniature house with the sleeping porch built about a window; also, on the form near the door, the suit worn by the children in the Chicago open-air schools. On the other side of the aisle is seen the chart on communicable diseases, a model school desk, and in the background an invalid chair on wheels, the frame of which is adjustable, thus permitting the patient to use his favorite chair.

enter. The lecture was just beginning; the subject was tuberculosis. On the wall was a map of the state, divided into counties. Certain parts of this map were thickly studded with black-headed tacks; each tack, the nurse explained, represented a death from tuberculosis, an average of three a day in the state! The nurse's talk on the cause and treatment of tuberculosis was brief, but comprehensive, omitting none of the essentials. The various methods of taking the fresh-air treatment were demonstrated: the suit worn by children in the Chicago open-air schools for tuberculous children was on display; a sleeping porch built about a window of a miniature house demonstrated that a sleeping porch is not a luxury, but within the reach of all; and a diminutive tent-house with its cot was explained minutely.

A lady near me remarked to another: "A friend of ours saw this exhibit in his home town about a month ago; he had been coughing several weeks, but had not seen a doctor. After he heard this talk he went to a doctor and found he had consumption. He made one of them tent-houses and is improving already." I looked at my farmer

friend, who had also overheard the remark. "Oh, I guess it does some good all right," he replied to my glance.

The next subject to consider was child welfare and hygiene. A poster on the wall, picturing the size of a baby's stomach at 1 month, 6 months, and 1 year, caught the farmer's eye.

"Is that as big as a baby's stomach is?" he gasped. Turning to his wife, he exclaimed, "By George, we certainly been a-stuffin' our kid." The last vestige of skepticism vanished from his face, and he gave undivided attention to the talk, often asking questions and prompting his wife to make further inquiries. The interest of the average American parent in all that pertains to the welfare of their offspring was well illustrated by this change of attitude. Unquestionably their "individual problems" were being solved! Then came the lecture on the value and duties of the school nurse, communicable diseases, water contamination, food adulterations, etc., the now thoroughly aroused farmer giving close heed to each talk and asking questions. As the end of the exhibit was reached he turned to me (I had managed to keep

close by, deeply interested in his changed attitude): "Wonderful, isn't it? I can't carry it all away in my head, but I certainly have learned a lot and am mighty glad I came." And we shook hands. There was an "I-told-you-so" look in the eyes of the smiling wife, but I surmise it did not find expression in words.

All day they came and went. It was a fascinating occupation, that of studying group after group, to see the change in those who had come with no real interest and little knowledge of the purpose of the exhibit, to see the look of indifference give place to quick interest, "and those who came to scoff remained—to learn." Equally interesting and enlightening were the comments heard here and there, "I wish I could have had this opportunity when my children were growing up," was the remark of many mothers. "I wonder if that is what the doctor meant when he told me to get a tent-house," one man said, looking at the small model. "I supposed it was something I couldn't afford, but I could make one of them myself."

Six o'clock was the hour for closing the car, yet it was long past that hour when the last visitor reluctantly departed. The weary, but enthusiastic nurses dropped into a seat in their own little compartment in the car.

After dinner we returned to the car to "talk shop." The nurses were enthusiastic and hopeful for results. And, indeed, the hope was well founded.

As we made a tour of the various exhibits of the now deserted car, the nurses related interesting incidents connected with the work. Apropos of the numerous dolls used in the tuberculosis and child welfare departments, the following occurred: A shabbily clad little girl entered the car one evening just as it was being closed. Timidly approaching one of the nurses, she asked, "What you a-going to do with your dolls when you're through with 'em?" eyeing the "fresh-air-smile" dolly wistfully!

At one small village a farmer came to the car and asked, "Have you got anything here for rheumatism?" It was explained that they had nothing to sell and did not prescribe. "Is rheumatism your special problem?" was asked. He went on to relate how he suffered from the trouble "off and on" every winter; that he had four brothers and one sister similarly afflicted; the only member of the family not a sufferer from this condition was a younger sister. Questioned about the condition of his teeth, he admitted he had a "lot of decayed ones." Did he have any trouble with his throat? Yes, he had frequent attacks of what "they call tonsilitis." He was advised to have his

teeth put in good condition and to consult a specialist about his throat trouble; the relation existing between tonsilitis and rheumatism was explained. His face lighted up.

"Well, now, since you mention it, that sister who has never had rheumatism had her tonsils took out several years ago. I'm a-goin' right home and write all the folks about it."

Yes, the Kansas Public Health Car helps solve individual problems!

COLOR AS A THERAPEUTIC AGENT

Spring Colors and Open-Air Effects Employed in Decorating a Ward for Shell-Shock Patients

An interesting experiment in the judicious use of colors in the surroundings of neurotic patients has been carried out in a ward of the McCaul Hospital for Officers in London. This ward for officers suffering from shell shock has been decorated by Mr. Howard Kemp Prosser, whose theory is that the feeling of being shut in adds to the sufferer's depression and thus retards recovery. The colors that he has employed, therefore, are intended to give the effect of sunny open spaces in early spring—the time of hope and cheer. The ceiling is painted a bluish color, the tint, chosen to represent the blue of the sky, being known as "firmament blue." The walls, intended to represent the tint of sunlit foliage in spring, are painted a greenish yellow, called "sunshine primrose." The furniture is painted a similar color, so as to melt into the color of the walls. The woodwork and the floors are of a more decided primrose green. The window curtains are double, the outer set being pale yellow and the inner pale mauve. The fireplace, hearth, fender, and also the diet trays are of dull silver color. The china is a primrose color. There is no pattern anywhere in the room except for a simple design on the upper edge of the bedspreads and a little spring landscape hung over the mantelpiece. No browns or reds—no colors of death and decay—enter into the decorations. This color scheme is no doubt difficult to render into words with any degree of precision, but we have it on the authority of the *Lancet* and the *British Journal of Nursing* that the general effect is cheerful and most charming—probably well adapted to give relief to the minds of sufferers from depression.

Convict Offers to Make Knitting Needles for Red Cross

Convicts in the Eastern State Penitentiary at Philadelphia want to work for the American Red Cross, according to this letter, from Inmate B1381, received at Washington:

"Under separate cover I am forwarding you some samples of knitting needles which I am making of first-class, kiln-dried wood.

"I am a life prisoner in the Eastern State Penitentiary, and have made a machine by which I can turn out these needles, and any other style or thickness you may require, in considerable quantities. All the finishing is done by hand, and the large number of prisoners here, in total idleness, as all efforts of the prison administration to provide them with work have been in vain, have offered to assist me in the polishing and waxing of them, so there is practically no limit to the number of needles I can turn out."—Red Cross Bulletin.

PENNSYLVANIA AN EXAMPLE OF THE ADVANTAGES OF STATE-WIDE CONTROL OF TUBERCULOSIS

Cooperation Between Dispensaries and Sanatoriums—Operation of the System—Reduction of Tuberculosis Death Rate in Pennsylvania

BY KARL SCHAEFFLE, M. D., MEDICAL INSPECTOR OF DISPENSARIES, STATE DEPARTMENT OF HEALTH, HARRISBURG, PA.

WHILE the beginners in public health work are engaged in a search for the most effective and economical methods of administration, and while the recommendations of tuberculosis workers embrace all forms of organization, from the community unit to federal supervision, it might be of value to consider the principles involved in the solution of the tuberculosis problem by the study of a system which has been in operation for a sufficient time to show results. Any scheme for the control of such a chronic and widely distributed disease, to be successful, must combine all of the features of intensive investigation with those of comprehensive execution. Within the limits of a state, naturally, state-wide organization affords the best opportunity for the coordination of such measures. This is beginning to be recognized even in those commonwealths which have depended upon the inadequate county unit. It is also generally agreed that, as soon as possible, such endeavor should be made official and continuous by placing the power for its operation in the hands of the duly constituted health authorities.

This was done in Pennsylvania on May 14, 1907, when the division for the control of tuberculosis was created by act of assembly as an organic part of the state department of health, upon the recommendation of the commissioner, Dr. Samuel G. Dixon, who had shown through his bureau of vital statistics that the greatest cause of death within the state—the cause, in fact, of one-tenth of all of the deaths—was tuberculosis. The organization of the division began within six weeks after the passage of the act.

Pennsylvania presents many difficult problems to the sanitarian because of its size and topography and the diversity of its industries. Its mines, oil wells, railroads, mills, factories, and farms have made it for many years the greatest industrial state in the Union, and have attracted immigrants from all of the countries of Europe as well as large numbers of southern negroes. When, in addition to these factors which influence the habits of thought and of life of a people, it is remembered that the indigent frequently change their habitations and that the city consumptive usually tries to move to the country, the use of the term "control" must necessarily imply persistent and uniform effort by an all-embracing and closely

knit organization under an executive who is fully alive to his responsibility.

Let us, therefore, consider, first, the structure of this body, then its manner of operation, and, finally, the results.

The department's division for the control of tuberculosis consists of three state sanatoriums and 116 dispensaries. The sanatoriums are situated in the mountains, but near the large centers of population, all three being on or near the horizontal line across the state which marks the central line of population, while the two in the east are on opposite sides of and about equidistant from the central point of population. Together, they have a capacity of 2,300 beds. The 116 dispensaries are distributed in such a way that every important town and railroad center has a dispensary; every county has at least one, while the more thickly congested counties have as many as six. Thus there is no spot within the state which is not within reach of some antituberculosis unit. These units vary in size according to the local requirements, from the dispensary located in a physician's office in a rural community to the largest tuberculosis sanatorium in the world at Mont Alto, where there are 1,135 patients. There are 210 physicians and 130 nurses employed in the dispensaries and 25 physicians and 100 nurses in the sanatoriums.

Each sanatorium is in charge of a medical director, who is held fully responsible by the commissioner for every detail of its management. This includes the character of the professional work of the medical and nursing staffs, the maintenance of discipline throughout the institution, supervision of all sanitary conditions (such as the preparation and serving of food, disposal of wastes, fly prevention, sterilization of infected material, fumigation and cleaning of buildings), also supervision of the farm and care of grounds, the requisition of supplies from the department's purchasing division, and the examination and safeguarding of the supplies when received. Above all his other duties, the director makes a sustained effort to instruct, encourage, and entertain his patients.

Dr. Dixon exercised great care in the choice of sites for the sanatoriums. Each has remarkable natural advantages and, at the same time, excellent railroad facilities. Each has a pure and

abundant water supply and an adequate sewage disposal plant. These were provided according to the recommendations of the department's engineering division. The elevation of the three sanatoriums ranges from 540 feet at Hamburg to 1,650 feet at Mont Alto and 2,530 feet at Cresson. Patients with heart complications are sent to Hamburg. Each sanatorium receives cases of pulmonary tuberculosis in all its stages, but separate provision is made for the earlier cases and the far advanced by having the latter occupy buildings which have large solariums adjacent to their wards and numerous rooms for individual care, while the more favorable cases are assigned to cottages. These comprise camps for each sex. Children are housed in especially constructed buildings in which they are divided into groups of large and small girls and large and small boys. The interiors are so arranged that it is impossible for any child to escape the observance of the

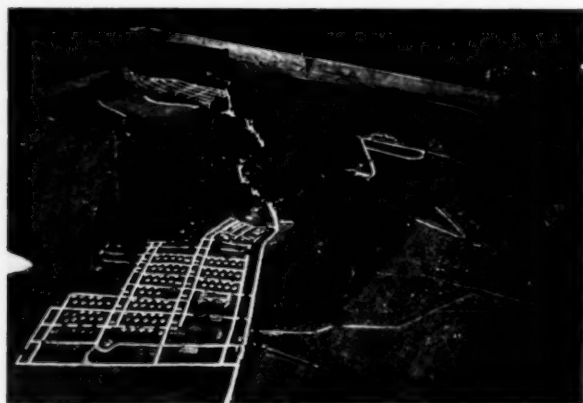


Fig. 1. Not an aeroplane picture, but a photograph of a model of Pennsylvania State Tuberculosis Sanatorium, No. 1, at Mont Alto, which helped to win the world's prize for exhibits of health departments at the Panama-Pacific International Exposition, at San Francisco, 1915.

nurse on duty, whose post commands a full view of the bathrooms as well as of the wards. The education of the children is provided for by fresh-air schools erected on the sanatorium premises.

The cottages are built from a model designed by Dr. Dixon, which provides for a maximum of sunlight and of circulation of fresh air. They are square, with a room at each corner, and a central space in which there is a radiator connected with the heating plant, where patients may dress and undress in winter. Each room has two large open spaces in its outer walls which, in time of storm, are protected by sliding wooden shutters, hinged at the top so that they may be inclined outward to any angle. Each cottage is raised about 4 feet above the ground and is set with its corners pointing to the four cardinal points of the compass, so that all rooms receive an equal amount of sunshine during the day and none is in the shadow of adjacent cottages. They are arranged in diagonal

rows instead of at right angles, each surrounded by space equal to the size of a cottage. This affords the greatest amount of air circulation. A ventilator at the top of each cottage provides for free circulation within. There are no porches to keep the sun from entering the rooms. The cottages and many of the buildings are protected against fire by asbestos shingling. Patients "take the cure" at stated periods of the day in pavilions designed for the purpose. There are bath houses in each camp, in charge of attendants.

The dispensaries are adapted to the needs of their communities. Thus, in the cities entire houses are rented and opened daily for the diagnosis and treatment of tuberculosis, while in the towns rooms are used two or three times a week and in the rural districts the dispensaries are located in the offices of physicians where the work is done by appointment. The larger dispensaries have staffs which consist of a physician in charge, a first assistant and second assistants who are general diagnosticians, a laryngologist and a pediatricist, also a sufficient number of nurses to cover the field of the dispensary's operations. In the thinly populated sections one nurse may serve two or three dispensaries. The average number of patients assigned to each nurse is 70. The boundaries between the different dispensary districts are clearly defined. This prevents overlapping and instantly places the responsibility where it should rest when cases are reported which require care. (Compulsory notification of tuberculosis is required by law in Pennsylvania.) The physical condition of each dispensary is made an example to the patients who attend it, in cleanliness, order, simplicity, and economy. In addition to the chairs, examining couches, desks, filing cabinets, and screens, the state provides standard scales and blood-pressure instruments for all. A uniform style of department forms is used throughout.

The commissioner of health keeps in close touch with each sanatorium and dispensary through frequent visits of inspection to the former and through the regular reports of the two physicians and two nurses, whose duty it is to inspect the dispensaries. Such inspections are made without notice to those in charge. Thus all of these units are standardized.

The functions of each antituberculosis unit, whether sanatorium or dispensary, embraces the diagnosis and treatment of the disease and the education of the patient in the principles of correct living; also the furnishing of information to the community and to neighboring physicians and social agencies in regard to the disease and the means at hand for its prevention. The dispensaries act as "feeders" to the sanatoriums (no

patient can be admitted to a state sanatorium unless he has first been examined in the dispensary and his home visited by the dispensary nurse; they are also centers for the supervision of home treatment, the maintenance of the "follow-up" work and the collection of statistics.

The best way to study the operation of this system is to see what becomes of a patient who enters one of the dispensaries. He is cheerfully welcomed into the waiting room, where he is made comfortable and is then asked to sign a statement that he is unable to pay for treatment; his history is obtained with especial inquiry into his occupation, family income, number of dependents, the amount of rent, insurance and sick benefits, the previous medical history and that of the present illness; his weight, height, and temperature, pulse, respiration, and blood pressure are recorded, and he is given a thorough physical examination, which includes an examination of the larynx. All



Fig. 2. The Dixon cottage.

findings are recorded upon special charts. The patient is instructed in the use of sputum cups and paper napkins, and is given a sterile receptacle for the collection of a specimen of sputum to be sent to the state laboratory. If the diagnosis is positive the patient is at once informed of his condition and of the measures necessary for his improvement or recovery and the avoidance of transmitting his infection to others. His name is officially enrolled upon the dispensary list, and within forty-eight hours a department nurse visits his home. Depending upon his location, this may involve a journey into the most inaccessible mountain regions or into the city slums. The nurse, who combines the professional ability of a registered graduate with the special consciousness of the modern social worker, makes a complete sanitary and social survey, verifies the claim of indigency, and adjusts the family as gently as possible to their new responsibility. She arranges for the patient to sleep alone, with the windows

wide open, the room bare of hangings and of floor covering, and for the removal of all articles which cannot be cleaned by means of a damp cloth. She sees that all rubbish is removed from the premises, that the sink and sewer are clear and provided with disinfectant, that garbage is covered and removed promptly, and that the windows are screened by netting. She instructs the family in the care of the patient's utensils, in the importance of regular bathing, dental care, the selection and preparation of food and the adoption of some means of outdoor sleeping. The original condition found and the improvements instituted are noted upon the nurse's report, with additional comment upon the particular social and economic problems of the family under consideration and of their degree of cooperation. Subsequent visits are made unannounced at intervals not greater than two weeks, and, in some instances, daily. The dispensary physicians evince much interest in the reports of the nurses and, by frequent conferences with them, are enabled to ascertain the underlying causes of the disease in the community and the reasons for success or failure in individual cases.

Every patient is urged to go to a state sanatorium. If he decides to do this, an application is filed for him, which includes a summary of his history, a copy of the chart of his physical examination, and a copy of the nurse's report. The name and address of a responsible relative or friend must be furnished, and the patient must be vaccinated within five years prior to his admission. These applications are forwarded from all of the dispensaries to the Harrisburg office, where they are kept in the order of their arrival and, together with a card index, constitute the waiting list. Each sanatorium director forwards, daily, a census of his institution which indicates where vacancies occur in his institution. These vacancies are filled from the Harrisburg office as promptly as possible by means of notices sent to the dispensaries and patients when their places upon the waiting list are reached. In the case of children, department tags are sent to be affixed to the clothing in a conspicuous place. A nurse from the local dispensary is detailed to see that the patients depart in good condition upon the proper train. If a change of cars is unavoidable, nurses from the dispensary nearest to the junction are notified to superintend the transfer. The patients are met at the sanatoriums by automobile trucks and are conveyed to the institution in charge of a member of the nursing or medical staff. Here they are admitted to special wards, where they are put to bed and kept under observation for one week, after which, according to the results of

their examinations and the character of their clinical records, they are transferred either to the hospital or to the cottages. The department requires each sanatorium patient to remain at the institution for at least four months, and encourages him to remain until "apparent cure" is accomplished. Those who leave in less than four months are discharged as "against advice" and render themselves ineligible for further treatment in any of the sanatoriums or dispensaries, unless they write a personal letter to the commissioner, expressing their regret, explaining their reasons for failure to comply with regulations and giving assurance that, if allowed to be readmitted, they will remain until granted a regular discharge.

The following is an outline of the daily routine at the sanatoriums:

6:30 a. m.—Rising hour—Bell 6:30 a. m.
 7:15 a. m.—Breakfast—Bell 7:00 a. m., Bell 7:15 a. m.
 7:30 to 9:30 a. m.—Temperatures and cleaning quarters.
 9:30 a. m.—Lunch—Bell 9:30 a. m.
 10:00 to 11:30 a. m.—Rest in pavilions—Bell 10:00 a. m., Bell 11:30 a. m.
 12:00 noon—Dinner—Bell 11:45 a. m., Bell 12:00 m.
 1:00 to 2:30 p. m.—Rest in reclining positions on bed.
 2:30 p. m.—Lunch—Bell 2:30 p. m.
 3:00 to 4:30 p. m.—Rest in pavilions—Bell 3:00 p. m., Bell 4:30 p. m.
 5:00 p. m.—Supper—Bell 4:45 p. m., Bell 5:00 p. m.
 5:30 p. m.—Distribution of mail.
 5:45 p. m.—Temperatures.
 7:30 p. m.—Lunch—Bell 7:30 p. m.
 8:30 p. m.—Retiring hour—Bell 8:30 p. m.
 9:00 p. m.—Lights out—Bell 9:00 p. m.

In addition to this program the patients are allowed to engage in certain activities, under proper supervision, which aid their return to health by stimulating their mental and spiritual growth. They publish a monthly magazine, entitled *Spunk*, which contains original essays, stories, poems, and personals, written by the patients of the three sanatoriums, with occasional contributions from members of the department. They have orchestras composed of patients whose cases are "apparently arrested." A motion picture apparatus at each sanatorium, with a constant change of films, provides evening entertainment once a week. Dramatic and vaudeville performances are given at Christmas and upon other special occasions. Religious services are regularly conducted in chapels, which are open to all denominations. After four months of the sanatorium routine, if the patients are sufficiently improved, they are allowed to engage in light occupations, such as the care of poultry (there are several thousand fowls), flower and vegetable gardening, carpentry, and, finally, to serve as orderlies or ward-maids. All such work is carefully graduated by the medical directors and paid for by the department. Thus they are prepared to return to the occupations at home by which they supported themselves.

When a patient leaves the sanatorium he is referred to the dispensary from which he gained admission, or to the local dispensary in case his

family has moved. He is then readmitted to the dispensary roll and is instructed to continue his attendance while becoming adjusted to the ordinary conditions of life. Many dispensaries have night clinics so that patients may remain under observation after they have resumed their work. During this time the nurse continues her visits to the home and encourages the patient and his family to continue as nearly as possible the sanatorium regime. Prompt notification of the dispensaries, by the sanatoriums, of the discharge of patients insures the tracing of many who might not return. The dispensaries notify the Harrisburg office when patients remove from their localities so that they may be referred to other dispensaries if they move within the state, or to the proper health authorities if they cross its borders.

If the patient is unable to avail himself of sanatorium treatment he is instructed to report regularly to the dispensary for observation, individ-



Fig. 3. Physical examination of a patient in a Pennsylvania state tuberculosis dispensary.

ual advice or class instruction, the issue of supplies, including milk and oil as supplemental food when required, and medication if necessary. He must also allow the constant supervision of his home by the department nurse until the activity of his infection is arrested. Every other member of his family is brought to the dispensary for diagnosis. The children are examined with especial care and, even if well, are always the subject of inquiry. Mothers are instructed in infant welfare. An effort is also made to determine whether tuberculosis is present among others with whom the patient has come in contact. This naturally leads to an investigation of local industrial conditions. The thousands of employers throughout the state have been asked to send their people who had symptoms or signs of tuberculosis, to the dispensaries. Many are doing so and have expressed their interest in the movement by improving conditions in their plants. The nurses are frequently

successful in arranging for changes to more favorable occupations for their patients and in obtaining work for those who are unemployed, or members of their families.

An agent which has proved highly efficient, in properly selected cases, in raising the resistance of the individual to the infection and thereby hastening its arrest, is the extract or the emulsion of the tubercle bacillus. Its use may commence at either sanatorium or dispensary, and if the patient passes from one to the other, a record of this treatment is sent with him. The watery extract is made from Dr. Dixon's formula announced shortly after his description of the attenuated forms of the tubercle bacilli.¹

After the final discharge from either sanatorium or dispensary, the patients are "followed up" at intervals of six months, for a period of two years. The "follow-up" is conducted through personal interviews arranged by the nurses with the patients at their homes. The patient's physical condition and financial status is carefully investigated and recorded upon special forms, copies of which are sent to the Harrisburg office. If there is any indication of the necessity for further treatment, the patient is urged to return to the dispensary.

SCHEME OF TABULATION OF THE "FOLLOW-UP"

Admission classification.	Discharge classification.	"Follow-up" classification.
Incipient.	Cured.	Improved.
Moderately advanced.	Apparently cured.	Stationary.
Far advanced.	Arrested.	Progressive.
	Apparently arrested.	Dead of tuberculosis.
	Improved.	Dead of other causes.
	Unimproved.	No data.
	Progressive.	

From a study of such tabulations since they were started in 1912, it is seen that of the thousands of former patients of the sanatoriums and dispensaries the majority of those who remained under treatment for a sufficient time to receive a favorable discharge showed, upon investigation, highly satisfactory results in their state of health and economic progress.

From the inauguration of Pennsylvania's official campaign against tuberculosis on May 14, 1907, the death rate from the disease has been reduced from 129.6 per hundred thousand to 104.7. There have been 97,655 admissions to the dispensaries, 22,348 of which were transferred to the sanatoriums. Of these patients, 7,802 were discharged with the disease "arrested" or "cured." The nurses made 1,125,736 visits to patients' homes. After careful investigation, 8,056,862 quarts of milk were issued as supplemental food.

In addition to the intimate relations between all parts of the division for the control of tuberculosis, the division itself maintains close contact

with every other division of the department. Thus improper housing conditions are reported to the housing bureau by the department nurses while on their rounds, whether such conditions are found in the homes of their patients or elsewhere, and infringements of the law regarding the use of public drinking vessels and common towels and the health of employees of public eating places are referred to the division of public service. Assistance is rendered the medical division in the control of acute contagious diseases. In addition to service at epidemics, every physician and nurse is ready to respond to any call for help in public disaster, such as floods, fires, and explosions.

At the present time every one of the five thousand members of the department expects to do his or her part in case of invasion or internal disturbance due to our state of war. A large part of this force may be assembled at any point in the state upon short notice. By training and experience the members of this organization are also qualified for the more protracted service of social rehabilitation which will be required as soon as our people suffer loss. Further, we are ready to respond to the cry from overseas to assist the soldiers of France in their struggle with the silent foe, tuberculosis, and to organize for the protection of the civil population against this and other scourges or to take our turn at the military hospitals or in the field.

Transforming Your Automobile Into an Ambulance

A handy device for converting an ordinary passenger automobile into a comfortable ambulance to transport the sick or the wounded either in battle or in civil life has recently been tried and approved by officers of the American Red Cross, who were favorably impressed, says the *Red Cross Magazine*.

The device, which is the invention of Dr. Sigmund Leon Gans, president of the Physicians' Motor Club of Philadelphia, will accommodate two recumbent cases on litters, one semi-recumbent case on the back seat, and two to four sitting cases on the floor of a seven-passenger car and one sitting case with the driver. The attachment costs but little and is very easy of adjustment and can be easily attached or removed from the car.

Principle of Universal Military Training Indorsed

The Clinical Congress of Surgeons of North America, at its Chicago session, October 25, last, adopted a resolution urging on Congress the passage of a measure along the general lines of the Chamberlain bill for universal military training. At a meeting of the committees of the medical section of the Council of National Defense from all the states except Maine and Delaware, held in Chicago October 23, resolutions were passed urging on the government the adoption of a comprehensive plan of universal military training of young men for at least six months on arriving at the age of 19.

¹Medical News, January 17, 1891.

THE NEW CHILDREN'S HOSPITAL AT DENVER, COL.

Designed for 65 Patients—Special Adjuncts for Treatment of Deformities—Exterior Plain, Interior Equipment of Approved Types

By MAURICE B. BISCOE, ARCHITECT, DENVER, COL., AND S. S. GOLDWATER, M. D., CONSULTANT, NEW YORK

THE new building for the Denver Children's Hospital will accommodate 65 patients, of whom 16 will be in private rooms and the remainder in wards varying in size from 2 to 14 beds each. The building is to be four stories in height in addition to a high basement. On the fourth floor are the babies' wards, operating suite, and orthopedic operating rooms. On the third floor are the children's wards. On the second floor are the private rooms and laboratory. On the first floor are the detention wards, offices, superintendent's and interns' quarters, x-ray department, examining room, and a group of six private rooms. In the basement are kitchens, diet kitchens, servants' and nurses' dining rooms, linen rooms, wet nurses' rooms, men's rooms, storage, refrigeration, disinfection, laundry, and morgue. In the subbasement

is the apparatus for heating the building and supplying hot water and steam for the sterilizers, kitchen, and laundry.

On each floor is a kitchen for ward service, supplied with artificial refrigeration, steam tables, and gas for cooking, and an incinerator for burning garbage and waste. Each ward kitchen is served from the main kitchen in the basement by an electric dumbwaiter. On each floor are also utility rooms, with complete sterilizing equipment, bath rooms with special arrangements for bathing children, surgical dressing rooms, and toilets for patients and for nurses.

The detention ward on the first floor, where all new ward cases are put until danger of contagion is past, has also its own separate service rooms and an outside entrance, so that it may in emergency be completely isolated from the rest of the

building for an indefinite period. Each floor is provided with closets for linen, medicines, supplies, and for the janitor, and with steam blanket warmers. On the third floor is a dining and play room for such ward patients as are able to be up. The operating suite on the fourth floor consists of a large operating room, a small operating room, sterilizing room, scrub room, anesthetizing room, doctors' locker room, nurses' work room, and toilets. On the ward floors are porches with southeast and southwest exposures, sufficient in size to accommodate all the children in the wards,

and each private room has a balcony opening directly from it. There is also a large paved roof space over the one-story part of the building, which will be used as a roof garden in summer.

The soiled clothes are taken from each floor in a chute entirely



Fig. 1. Denver Children's Hospital. General view.

outside the building to disinfecting room in the basement, where they may be sterilized before being sent to the laundry. All the rooms occupied by patients have east, west, or south exposures, only the service rooms, toilets, offices, and operating room being north lighted.

The building is fireproof throughout, and is constructed of brick, concrete, and steel. It is heated by steam. All patients' rooms and wards are ventilated by windows with hopper transoms, while all service rooms, kitchens, and toilets are ventilated by an exhaust fan system. The lighting is entirely indirect, and a complete system of telephones, nurses' signals, and doctors' calls is installed. An electric passenger elevator runs from the basement to the fourth story, and is of a type which may be used either with or without a pilot. The fire escape is of the inclined plane

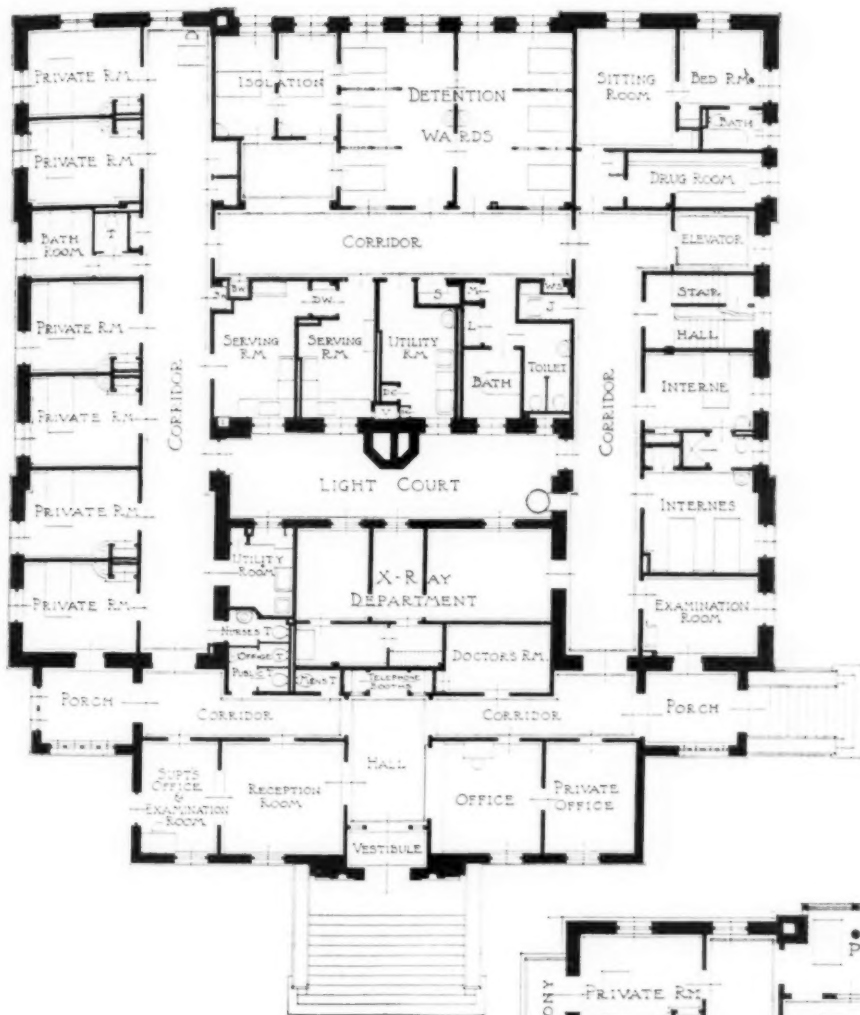


Fig. 2. Denver Children's Hospital. First floor plan.

type, so that children may be taken down in their cribs to the roof garden from each floor in the regular operation of the hospital as well as in an emergency.

The plans are so arranged as to provide for each sick child the maximum of sunshine and fresh outdoor air, an opportunity for convenient treatment upon open-air sunny porches at any time of the year, an arrangement of wards and service rooms which will permit the most convenient and economical, and therefore the most efficient, nursing, and the best plumbing, kitchen, laundry, and sterilizing equipment to be had. The exterior of the building is very simple, the only decoration being a small amount of colored terra cotta around the main entrance.

The cost of the building, including complete sterilization equip-

ment, kitchen, refrigerating machinery and boxes, battleship linoleum floors, and laundry, will be \$123,500, or 26¼ cents per cubic foot.

American Red Cross Hospitals in France

Direct treatment of the French sick and wounded is given by five hospitals which have been taken over by the American Red Cross, or in maintenance of which it is cooperating. These include some of the best-known institutions in France.

1. Dr. Joseph A. Blake's hospital of 300 beds at 6 rue Piccini, Paris, one of the best-equipped and best-run surgical hospitals in France. The hospital was originally built and conducted by the late Dr. Eugene Doyen, the famous French surgeon, and had the reputation of being the most magnificent hospital institution of its kind in Europe. In equipment this hospital is said to be not even second to the Pasteur Institute. Under Dr. Doyen, it was recognized as the finest and most expensive private hospital in the world.

2. The American Red Cross Military

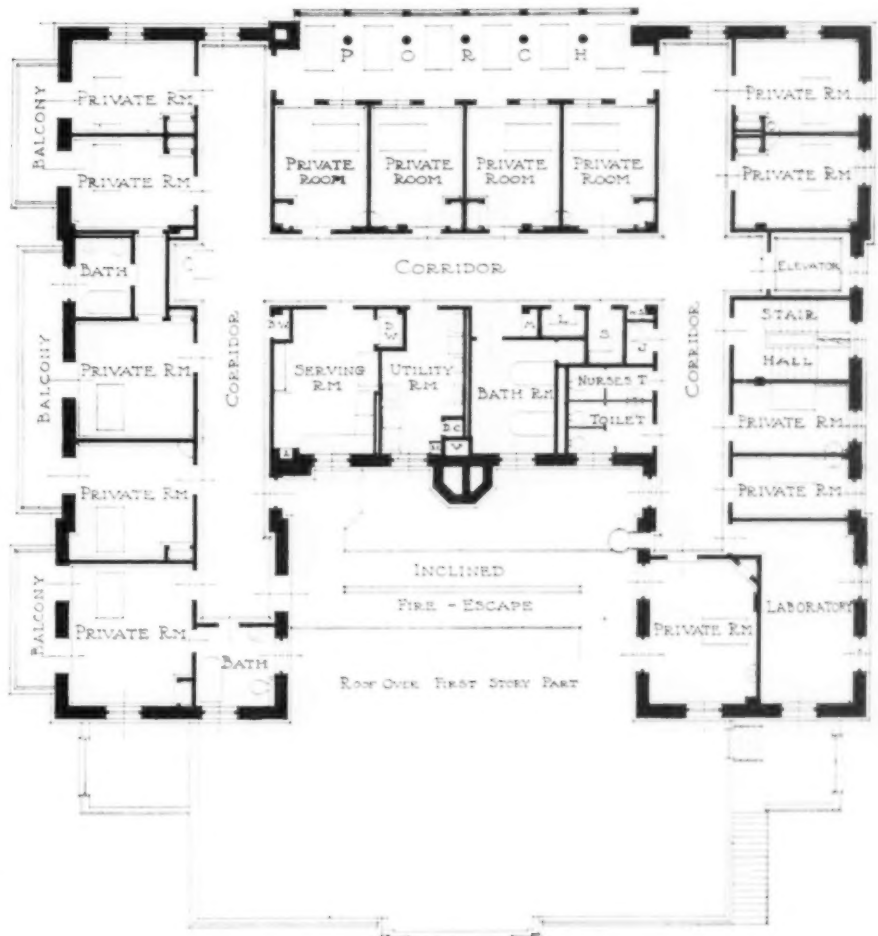


Fig. 3. Denver Children's Hospital. Second floor plan.

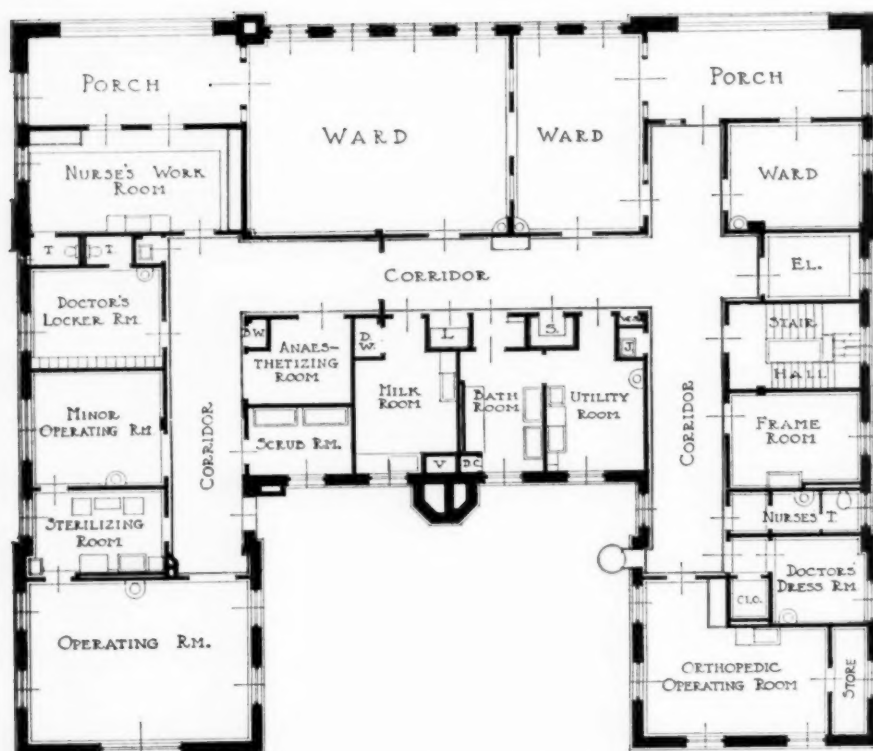


Fig. 4. Denver Children's Hospital. Fourth floor plan.

Hospital No. 1, originally the American Ambulance Hospital at Neuilly, which has "done more than any other to keep the American flag flying in France during the first three years of the war." This hospital was turned over for the care and direction of the United States Army in conjunction with the Red Cross, and will be conducted along the same lines as in the past, namely, for the French soldier. A motor ambulance service of one hundred men to evacuate the wounded from the trains coming into Paris to practically every hospital at the capital has been carried on in connection with this hospital, and will be turned over to the American army.

3. The Ambulance des Alliés at Annel, hitherto conducted by Mrs. Parke, which the Red Cross has increased in size from 75 to 300 beds. The hospital is near the front and affords an unusual chance for American and French personnel to work together.

4. The French hospital at Evreux, under Dr. Fitch, which makes a specialty of treating injuries to bones and joints. This institution is maintained by the French government, the surgical and nursing personnel by the American Red Cross.

5. The Autochir Hospital No. 7, a mobile hospital, practically on wheels and ready to move at any time on short notice, attached to a French evacuating hospital of 1,500 beds near the front. The nursing is done by a group

of American women under the control of Mrs. Daley, and the Red Cross has furnished a large part of their equipment.

The Red Cross will open a hospital for the care of its own sick and that of kindred organizations in France.

There is at present not sufficient hospital accommodations to care for the rapidly growing personnel of American civilian workers in case of epidemic. The Red Cross has thus far arranged for thirty beds through the generous cooperation of the American Hospital at Neuilly—which existed as a civil institution before the war and which since has been the instigator of many of the most considerable American medical activities.

The army base hospitals which were organized and equipped by the American Red Cross have, of course, been mustered into the United States Army Medical Corps or have taken over hospitals previously established by Great Britain in France and have lost their identity as Red Cross

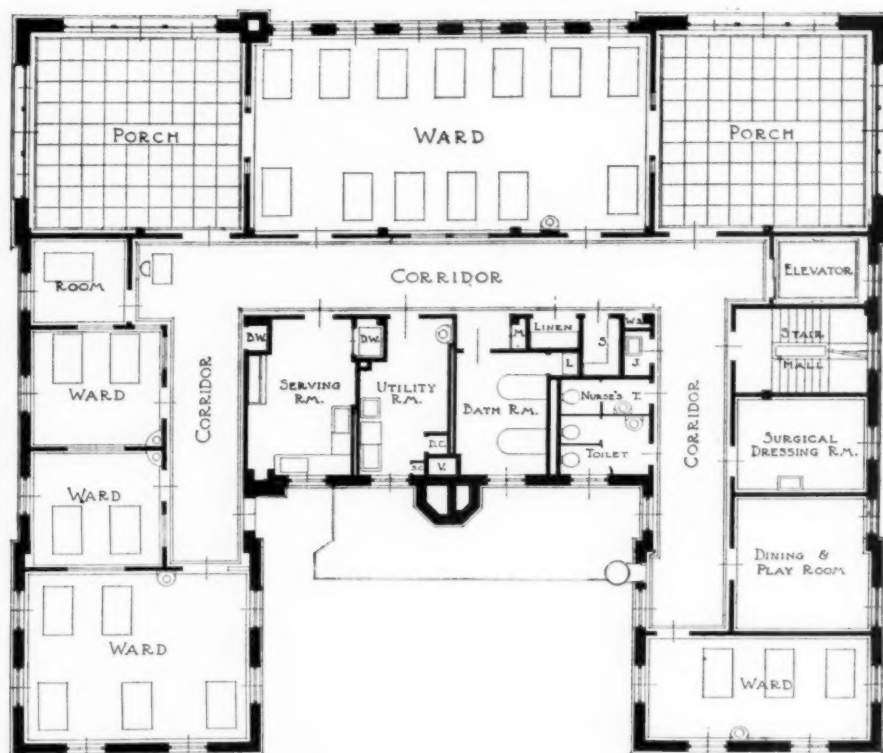


Fig. 5. Denver Children's Hospital. Children's ward floor plan.

organizations. Of something like fifty of these base hospitals, more than a dozen are now in France.—News Service of the American Red Cross.

You cannot prevent the birds of sorrow from flying over your head, but you can prevent them from building nests in your hair.—Chinese Proverb.

STANDARDIZATION OF HOSPITALS—CLASS VII, SMALL MUNICIPAL HOSPITALS**Political Factors Important—A Hospital Board the Best Controlling Agency—Medical Staff the Most Difficult Problem—Some of the Perplexing Details**

BY JOHN A. HORNSBY, M. D., CHICAGO, IN COLLABORATION WITH MISS MARY WHEELER, PRINCIPAL OF THE ILLINOIS TRAINING SCHOOL, CHICAGO; DR. SOLOMON STROUSE, FORMER PATHOLOGIST IN AND NOW MEMBER OF THE MEDICAL STAFF, MICHAEL REESE HOSPITAL, CHICAGO; MISS RENA S. ECKMAN, FORMER DIETITIAN, MASSACHUSETTS GENERAL HOSPITAL, NOW OF TEACHERS COLLEGE, COLUMBIA UNIVERSITY, NEW YORK; DR. J. T. CASE, ROENTGENOLOGIST, BATTLE CREEK, MICH.; DR. EDWARD S. BLAINE, ROENTGENOLOGIST, COOK COUNTY HOSPITAL, CHICAGO; MR. E. C. LARSON, FORMER ACCOUNTANT, NOW ASSISTANT SUPERINTENDENT, MICHAEL REESE HOSPITAL, CHICAGO; MR. MICHAEL M. DAVIS, JR., DIRECTOR, BOSTON DISPENSARY, BOSTON, MASS.

WE are to discuss this month small public municipal hospitals as Class VII of our schedule.

There is very little difference between this class of institutions and Classes IV and V, semipublic hospitals and community hospitals of the same size. There are one or two differences, however, that place these public hospitals in a class by themselves.

These latter hospitals are supported by taxation, and, since they are always in small communities, the impulse of their management comes from the class of men who make up the town councils and boards of county commissioners. Such men are seldom informed as to hospital work, and the public that elects them is seldom a well-informed public and usually does not appreciate the modern necessities for a high order of service to the dependent sick. As a pure matter of expediency, we shall not be able to demand of this class of hospitals the same service that may well be demanded of semipublic hospitals of the same size conducted by boards elected by the people who personally give the money for their support.

Moreover, there is in connection with these institutions the same political factor that exists in public metropolitan hospitals. It would be obviously impossible, for instance, to create a medical staff in the same way that we would have a right to expect of the semipublic hospital supported by individual subscriptions. The medical staff in this class of hospitals is created by the particular political faction which happens to be in power at the time that vacancies occur; and, while this is an atrocious admission to make, it is a fact that faces these hospitals and one that must be reckoned with.

The family physician to the president of a town council is very likely to be on the staff of this town hospital, and, because he has much influence with the president of the council, he is going to obtain the appointment of his professional friends in the community, no matter whether they be men of high intelligence, experience, and skill,

or whether, though mediocre in professional qualifications, they refer their difficult cases to the man who has influence to obtain their appointment to the staff of the hospital. We say again, this is an atrocious condition to have to meet, and one of the purposes for which standardization is undertaken is to bring about a more enlightened public opinion that shall permeate even into the small communities where such hospitals would naturally obtain and which improved public opinion must eventually result in greater demands in the way of service to the sick.

However, there are some of these small city hospitals whose staffs do excellent work and they will do far better work if they can be shown how.

Let us see now how we can organize one of these small city hospitals, bearing in mind the political aspects of the case and the political aspirations of the people:

First, nothing can be done without the fixing of personal responsibility on someone. If such responsibility is scattered over the personnel of the town council there will be no responsibility at all, and the superintendent of the hospital will be made the scapegoat of every misadventure that comes along, and will be changed so often as to have no opportunity to initiate or carry out any good rule.

The thing to do, if possible, is to have the mayor appoint a hospital board made up of the most responsible people, say, three in number, in the community. If this can be done, we shall have a definite responsibility, placed in the best possible hands, and the responsibility will be out in the open where the public can reckon on it and fix the blame for whatever goes wrong either in the appointment of the staff or in the administrative methods employed. If such a hospital board can be free from interference either by the mayor, the appointing power, or the members of the council who would be expected to supply the money to run the institution, it ought to be possible to create a very excellent medical staff, as nearly free from political influence as could possibly be attained.

This board, in making up its medical staff, ought

to think about some man for chief who would have high ideals of the profession, and it would be better if he could have some administrative ability than if he should be an exceptionally skilled specialist in any branch of medicine.

Then, no matter how small the hospital was, each of the specialties in medicine should be represented on the staff, in the major specialties, such as medicine, surgery, obstetrics, children's diseases, and the contagious diseases, there should be at least two men, so that in the absence of one the other could be counted on for attendance.

If there are more members in any one specialty than the hospital can find work for at any one time, it will be far better to divide up the work within simple, narrow limits rather than divide up the service staff by months. In other words, every member of the medical staff should be in service all the year round. This will keep up the interest of the members, will give continuous attention to the patients, under a uniform and unchanging policy, and will minimize the apparatus and equipment that will have to be used; because, if one man is on for three or six months of the year and then a new man comes on, it is certain that the new man will want something that the outgoing member of the staff did not have, and in the course of time this process would build up almost a double equipment for the accommodation of the incoming and outgoing service members. Moreover, if a man knows that he is going to be continuously on service, he will take an interest in mapping out a scientific policy for himself and will equip himself by keeping up in the literature and by visiting centers of hospital activity, and thus his skill and value to the hospital will be constantly improved.

The minor specialties, such as the eye, the ear, nose, and throat, neurology, and skin diseases, need not have more than one man each, although, if there are two or more specialists in the community, it will be well to put them on the staff. It is astonishing how active the members of the staff will become if there is a competitive spirit aroused among them, and many times a diagnosis that would otherwise be overlooked will be made accurately and treatment applied correctly and aggressively.

Many small communities in this country contain as good medical men as are to be found in the large cities—men who have come from good schools, have served good internships in good hospitals, and constantly keep up in the literature of their profession and do good work. Such men go away occasionally for postgraduate study. If they can be given an opportunity in their hospital at home to apply their skill, experience, and ob-

servations, they will measure up well by the side of many other men who have vastly greater opportunities but who have grown stale in the absence of competition.

INTERNS

Interns for these small city hospitals are always hard to get, and it is becoming harder every year to get good men because of the diminishing numbers of graduates that the good schools are turning out. The hospital board in these small communities will either have to pay interns quite good salaries or they will have to create conditions in the institution that will attract men for the experience and practice they will obtain there. A good medical staff is the best possible attraction for an intern. A fifty-bed hospital ought to have at least two interns, and the patients in even a much smaller institution will have far better care if there are two interns, especially if there is the spur of an active and aggressive visiting staff. The hospital board will appoint the interns for such an institution as well as for all other classes of hospitals, but some sort of examination, either oral or written, should be conducted by a committee made up of the various service heads, before the board makes any appointment, and the staff ought to have the final decision as to the educational and professional qualifications of a man who is to be selected as intern. The board must also keep in its own hands, acting through its superintendent, the control and the dismissal of interns, because if this power resides in the medical staff it is certain that some one member, recognized by the interns as having conclusive influence, will get better service from them than the other members, which will at once set up a spirit of dissatisfaction.

The duties of the interns in a small hospital of this sort, where the men are compelled to attend the patients of a large number of staff men, must be arranged on some time basis, because it is certain that there will be several visiting men in the hospital at the same time during the morning hours; the intern cannot possibly visit with each man, nor can he competently care for patients unless he does visit them with their attending physician. The morning hours are generally given up to operating, even in a small hospital, and, as those are also the hours when the staff men make their visits, it would be quite a delicate matter to arrange the intern's time. He will certainly be expected to be in the operating room assisting the surgeon, and even if there are two interns they will both be required in the operating room. Unless the matter is very delicately handled, the medical men and the specialists are going to be aggrieved if they cannot have the intern go about

with them to visit their patients. We can only emphasize the desirability of having a number of interns in the institution.

THE TRAINING SCHOOL

Hospitals of the class that we are now discussing should have their own training school. There is no reason why the schools in this class of hospitals should be created or conducted differently than the other classes that we have already discussed. But these small public hospitals are always going to find it harder to obtain good nursing material than the semipublic hospitals. In the first place, these small city hospitals rarely have decent quarters for their pupil nurses, and it is always a difficult thing to preserve good conditions in these hospitals that make the pupil nurse almost a common menial. They cut down on the number of graduate nurses that are employed to the lowest possible point, and consequently the training of the pupils will be extremely poor. This is bad enough, of course, from the standpoint of the girl, but there is a financial side to it also: this sort of a school will find it almost impossible to attract desirable young women or to keep them in case they should happen to be unfortunate enough to matriculate in the school.

If there is no training school, the hospital has to hire graduate nurses to take care of its patients, and the salaries for these graduate nurses mounts up in the course of the year. Would it not be far better, more economical, and more ethically proper to create decent living conditions for the girls so that they will be attracted to the hospital?

Obviously, a good deal of the training of pupil nurses in these small hospitals must be left to the individual activities of the members of the medical staff, since it is almost impossible for these hospitals to pay for enough graduate nurses capable of teaching to give the pupils an all-round training without help from the medical men, even if that were desirable.

THE LABORATORY

Most cities large enough to afford even a fifty-bed city hospital will have some semblance of a health department, and it is quite possible for the city to employ a pathologist who can do the work for the health department and for the city hospital. It ought to be possible to arrange the time of such a man or woman in some convenient way. It does not make quite so much difference what hours the city pathologist is at work, but it does make a great deal of difference as to the hours when the hospital pathologist should be on duty. It is necessary that an institution pathologist should be in the institution when the medical men

visit there. These visits are made in the morning hours. The afternoons for such an officer can be utilized in the health department work. The equipment of the laboratory in the hospitals of this class is a serious matter. Anywhere from \$500 to \$1,000 will cover the cost; the qualifications of the person holding the position are paramount. It will not do to utilize some practicing physician in the community as the hospital pathologist. Such a man will never be able to serve the other physicians as pathologist even though he were disposed to be entirely unselfish in the matter and free from any bias; the other physicians will not trust him with their cases.

OTHER DEPARTMENTS

What we have said about the other departments in Classes IV and V under our schedule may be understood as applying to this class of hospitals, and it will not be necessary to repeat them.

Further Comment on Standardization

The following remarks have been received from Dr. William R. Dorr, superintendent of St. Luke's Hospital, San Francisco:

These are some general thoughts relative to establishing a basis for standardization of hospitals which, although they run through your articles, do not seem to me to be given the importance they deserve.

GENERAL COMMENT

To me the care of a patient in a hospital naturally divides itself into two general classes, whether the hospital is a teaching hospital, large or small, a private hospital, large or small, or a public hospital, etc. No matter which of these a patient is in, he must have certain care in order to get well. This care divides itself, as said above, into two classes:

1. Professional care, including staff, interns, nurses, pharmacy, operating rooms, laboratories, etc.
2. Physical care or hotel care, including building (construction and location), surroundings, sanitation of buildings, service other than professional, grade of food served, and furnishings.

I believe that before striving to standardize a complexly organized institution such as a university teaching hospital, we should first set forth the minimum requirements in both the professional line and the hotel line that should be observed in an institution before it can be considered a hospital.

There is no question that in all institutions that pretend to be hospitals certain professional care must be given patients, if they are to get well, but it is not necessary to do elaborate research work in an institution in order to cure the patients entrusted to their care. Nor is it necessary to have interns to accomplish the same result; trained clinical clerks developed from the ranks of trained nurses are more permanent and satisfactory.

The same is true relative to hotel care. It is not necessary for the cure of patients that they have a tenderloin steak during their convalescence rather than a rump steak properly cooked; the nutriment is practically the same, but which one of these they get depends on the available

money, whether the patients furnish the money, or whether an endowment furnishes it.

Therefore should we not first set a minimum of what an institution should offer in (1) professional care and (2) hotel care, before said institution could be called a hospital.

Let us first define a *general hospital*, as this class is the most vital to the general public.

One other general observation: We must standardize our hospitals as to what they furnish, not to the staff, the interns, the nurses, etc., but, first, what they furnish the patients, and, second, what the hospital is doing toward preventive medicine among the general public.

COMMENTS ON UNIVERSITY HOSPITAL STANDARDS

Hydrotherapeutic department not given a mark. Why not? Should a university hospital have a pharmacy with a certain percentage and not have a hydrotherapeutic department and still be marked 100? How about other therapeutic departments?

Preventive medicine and education of the public besides staff, interns, nurses, etc., is not taken up or given credit in your article on the university or teaching hospital. Is this not a field that should be given some credit?

CONCLUSIONS

1. Set a minimum of what an institution should offer in equipment, medical service, physical appointments, etc., patients in order to be considered a hospital.

2. Divide hospital care of patients into two main divisions: (1) professional care, and (2) hotel care. Give a possible 100 percent to each of these, but keep them as separate as it is possible to keep them. After this add what should be added for teaching hospitals, for tuberculosis hospitals, and all other classes of hospitals, whether they be large or small, special or general.

3. In all accrediting have one viewpoint, that of the patient, first remembering that a hospital is primarily established for patients.

NURSES' HOMES AND SOME OF THEIR REQUIREMENTS*

Needs of the Various Classes Considered—Some Typical Bedroom Plans—Special Features—Reception Room, Recreation Room, Sewing Room, Etc.

BY OLOF Z. CERVIN, ARCHITECT, ROCK ISLAND, ILL.

A HOSPITAL management face to face with the problem of planning a nurses' home will find little information in books and magazines. This was recently borne in on me, and it was found necessary to make first-hand studies through personal conversation with superintendents and investigation of homes already erected. This paper is based on the opinion of various superintendents and the experience gained in this investigation.

To begin with the bedroom accommodations, hospitals usually find it desirable to provide some single and some double rooms, accommodating about half the number of nurses in each kind. The regular nurses, or rather the permanent nurses, should have, if possible, a floor of their own, or at least a portion of the building to themselves. Among these nurses would be the head nurses, dietitian, matron, and floor nurses. The undergraduate nurses stay at the hospital a comparatively short time, and therefore they do not strike up the friendships or require the special accommodations which should be given those nurses who make their home permanently in the institution. Moreover, the tastes of the one class are frequently quite different from those of the other. Private baths and toilets should always be provided for these permanent nurses.

The night nurses form another group for whom special provision should be made, as they must sleep during the daytime and require the very best attention in order to insure restful sleep. No

doubt the best place is in the attic story, where a properly isolated and well-ventilated dormitory would give the greatest privacy. Of course, it must be protected against heat and cold by careful insulation. The night nurses would have their regular bedrooms and would merely sleep in the dormitory.

If the building is over three stories high, it must have an elevator. In these days of the well-nigh perfect "push-button" type, it is unnecessary to employ an attendant with never ceasing expense.

As to the dining room and kitchen, it will depend entirely upon the policy of the institution whether separate equipment be provided for each building or everything be centralized under one control. If it can be done (and the cost is not much greater), the nurses should have their own dining room and their own kitchen, for their requirements are not the same as those of other departments. Even if this is not done, a small kitchen of the buffet type should be provided with a lunch room in connection. The demands on this kitchen for light breakfasts and evening lunches are very great.

Of course, every nurses' home should have a reception room, perhaps one large enough to be divided off, or, still better, smaller rooms so arranged as to connect with a large reception room. The nurses appreciate such an arrangement, for, when receiving, it is far more pleasant to have one's guests in a cozy room by oneself than to be entertaining in a large room where others are

*This paper is the first of a series of articles on the subject of nurses' homes. The next paper will be a description of the Wilson Kistler Memorial Nurses' Home, Lock Haven, Pa.

likely doing the same thing. It reminds one too much of a terminal station. If possible, these rooms should be so arranged that they can be thrown together for larger functions.

A recreation room possibly does more to make nurses satisfied with their work and surroundings than any other feature, excepting good food. This room should be large enough for social functions,

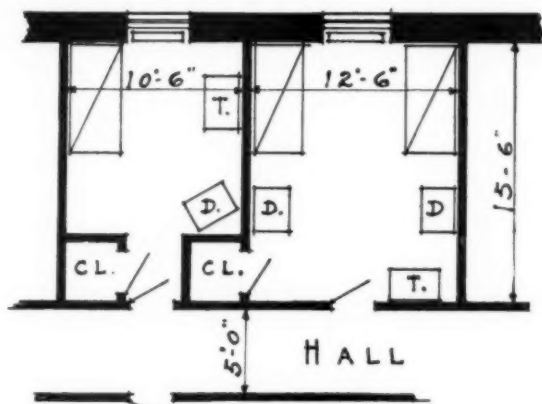


Fig. 1. A common but unattractive arrangement, in nurses' homes, of alternating single and double rooms, with beds by the window.

dances, etc., and while it should not be the reception room, it could readily connect with it.

Then there is the library, which should have well-stocked shelves, a large central table, and small tables with side lights. It should be somewhat secluded.

There should be class rooms for instruction, from one to three according to the size of the home. Class rooms should have from 20 to 30 feet of blackboard. If a portion—say, 10 or 12 feet—is made double, so much the better; the front part

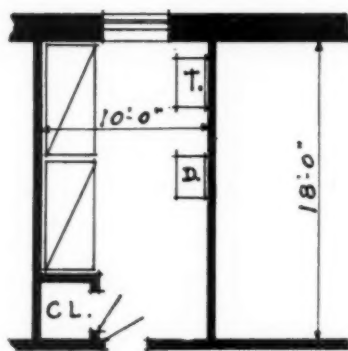


Fig. 2. An economical but even less attractive arrangement—beds close together on one side of the wall.

to be of light material, counterweighted so as to slide up. The board for permanent work to remain for weeks at a time, whereas the other board to be used for work from day to day. Adjoining these or otherwise conveniently located should be complete modern school laboratories, both chemical and physical.

One room often overlooked but highly appreciated where found is the sewing room. Here the

girls gather to chat while working. This room should be liberally provided with plugs for power sewing and ironing. It should have direct sunlight, if possible. Moreover, plentiful supply of cupboards, shelves, and wide tables is necessary.

Then there is the trunk room. A very large room, even the whole attic, will be found necessary for the many trunks. Nearly every nurse has a trunk, and it should be easy to get at. The room should be well lighted.

Some superintendents say a small laundry should not be overlooked, even though the nurses are furnished with their laundering free of charge. Many pieces are better off if not sent to the common laundry, and, again, some nurses re-

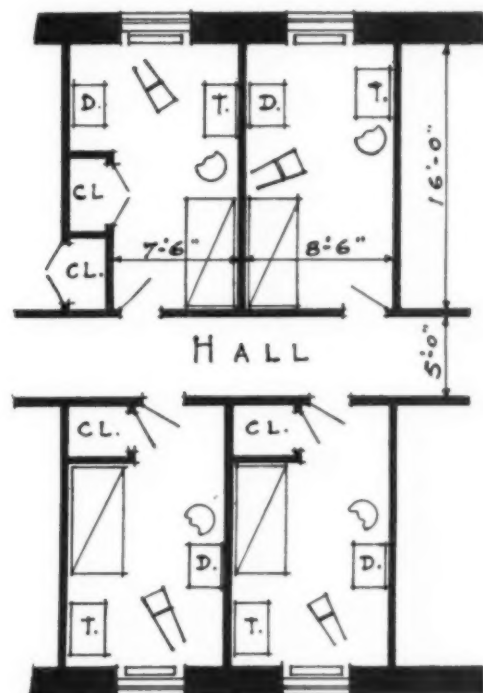


Fig. 3. On one side of the hall (upper portion of plan) an arrangement making use of the wardrobe type of closet; on the other side of the hall (lower portion of plan) rooms with ordinary closet.

quire more than others and are willing to do the excess themselves if they only have an opportunity.

If possible, a gymnasium, airy and not less than 12 feet high, should be provided in the basement, with necessary locker rooms. If a sanitary tile-lined plunge can be added, so much more attractive will the home be found. But a plunge without means of filtering is of little use. Therefore this becomes a large item, and ordinarily showers will be found sufficient.

In these days of much fresh-air talk, sleeping porches should not be overlooked. Many nurses find it almost necessary to sleep outdoors, and all would profit by so doing, and incidentally the gospel of fresh air would be spread still more widely over the land.

The toilet accommodation is ordinarily grouped in one room on each floor and vertically, one room above the other. It is far better to place the baths, showers, and basins in one room and the water-closets in another adjoining for sake of economy. It is safe to estimate, on the basis of providing for eighteen nurses, one shower, four bathtubs, six washbasins, and three water-closets.

Few homes were found with running water in the bedrooms.

It would seem that the nurse's bedroom, which is her castle, should receive greatest attention in the planning. However, this had not been done in many homes. Time and again the only place for beds was close up to the window and there was no space for tables except in the far end of the room.

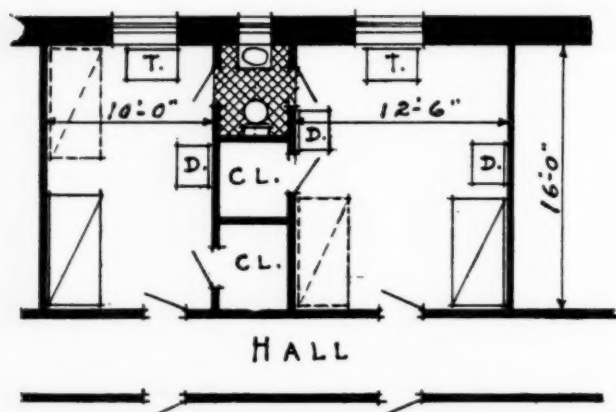


Fig. 4. An attractive but somewhat expensive arrangement with private toilet and commodious closet between two bedrooms.

Then, again, closets were often arranged so that a great deal of space was wasted or at least lost as far as spaciousness of the room is concerned. In some cases, closets were even omitted. It is well to allow no less than 100 square feet floor space per nurse, or say 900 cubic feet minimum.

Fig. 1 shows a very common arrangement of alternating single and double rooms, showing the beds by the window. It is not attractive.

Fig. 2 is another arrangement which is quite economical but even less attractive. The beds stand close together on one side of the wall, giving the room a stiff or mechanical appearance.

In Fig. 3 the problem of closets has been solved with the wardrobe type just deep enough for the ordinary clothes hanger, with one shelf above the hanger and additional space for storage, with a small door above. Below there should be a deep drawer at the floor. This arrangement provides a recess for the dresser, proper location of the table, room for chairs, and space for the bed near the door. This arrangement is shown on one side of the hall. On the other side is shown the ordinary closet. Although the wardrobe type occupies the same amount of space, it affords more room

for a table, chair, and dresser near the window than does the other.

A very clever arrangement, though somewhat expensive, is illustrated in Fig. 4, showing a private toilet with washbasin and commodious closets between two bedrooms. With this arrangement the bathtubs are concentrated for each floor, one set above another.

Incidentally, Fig. 4 illustrates one method of doubling the capacity of a nurses' home without increasing the number of bedrooms and still providing some rooms for beginning nurses and better rooms for advanced nurses. When the home is opened, each nurse would have a separate room, the larger room $12\frac{1}{2}$ by 16 for the older nurses, and the smaller room 10 by 16 for the beginners. As the demands grow, the larger room would take care of two nurses of the beginners' class, and the single rooms would be given to the advanced nurses. Still further growth would necessitate doubling up in all rooms, favoring the advanced nurses with the larger rooms.

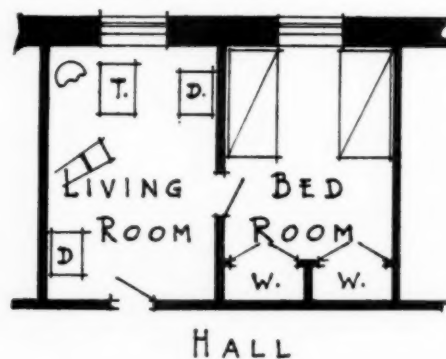


Fig. 5. Two connecting rooms, one used as a bedroom and the other as a sleeping room, with closets in the latter.

One scheme popular with the nurses should not be overlooked. This is shown in Fig. 5, where two rooms connect, the one being used for a bedroom and the other for a sleeping room with the closets in the sleeping room. If this arrangement were combined with the toilet room suggestion No. 4, it would seem that the nurses were provided with all the comforts of home, which would be none too much considering that they are away from their own people and have a very hard and taxing life. No home was found which had ventured this arrangement.

As to ceiling heights, nothing less than 9 feet should be adopted, and this was found very satisfactory in one of the best homes visited. Some homes have ceilings as high as 11 and 12 feet, but this is wasteful.

For the convenience of the nurses and the janitor help, such small items as mop closets, slop sinks, dust chutes with openings from each floor,

clothes chutes, linen supply rooms, speaking tubes, and call bells, and a small "cozy corner" on each floor should not be overlooked. A gas plate in the general bathroom will be convenient for fomentation cloths, heating water for the indispensable water bag or for the janitor's scrub pail. To this should be added an incinerator, either using gas—one for each floor—or a coal incinerator of the type becoming popular in apartment houses, with opening on each floor.

In fact, every little helps, and the less institutional the home, the more cherished will it be.

THE TUBERCULOSIS CLASS*

Results of Class Treatment and Sanatorium Treatment Compared—No Work Permitted Until Disease Is Arrested—Ex-Patients Usually Return to Former Occupations

Dr. Joseph H. Pratt, in a recent article in the *Journal of the Outdoor Life*, emphasizes the superiority of the results obtained by class treatment of tuberculosis over those obtained by sanatorium treatment. For instance,



"Home hospital" improvised on a flat roof. The patients, husband and wife, were both ill with pulmonary tuberculosis and unable to work. Both have recovered and have been working for eight years.

less than 25 percent of sanatorium ex-patients were able to work after eight or ten years, while 42 percent of Dr. Pratt's class members were able to work after this length of time, and this although the Rutland sanatorium admits only favorable cases, while the class refuses no members because of unfavorable outlook.

Dr. Pratt's "ideal has been immobilization of the patient" during the active stage. This is not always practicable among the poor. The exertion entailed by visits to the class has been distinctly harmful in some cases, but the class meetings were so helpful in keeping up the

courage of members that the physical work of attendance was regarded as a necessary evil. Some patients have attended only once in three or four weeks, but none, except those who are nearly ready for discharge and for whom exercise is prescribed, are allowed to attend oftener than once in two weeks.

Two class patients and their improvised home hospital are shown in the accompanying illustration. The family was found at Christmas, 1907, without money or food. Both husband and wife (the two patients shown in the illustration) were sick with pulmonary tuberculosis. The three children (the eldest only 11) were placed out to board, and a boarding place was found for the two patients where a tent might be pitched on a flat roof. Treatment was taken and both patients recovered; the family is now reunited. The woman has been doing her own housework for eight years, and her husband, who is now a motorman, has been self-supporting for the same length of time.

With the criticism that the class method is too intensive, because so much time, energy, and money are spent on a single patient, Dr. Pratt does not agree. In his view, the tuberculosis problem is, or should be, the individual patient. "Every cured consumptive," he says, "is a potent educational factor. Not only may one tuberculosis class make a real impression on the tuberculosis


situation, but the efforts of one nurse expended on a single patient may exert a widespread influence in the tuberculosis crusade." This statement he illustrates by the story of a poor, ignorant, and apparently unteachable negro with far-advanced consumption, who was finally induced to take the proper treatment, though at first suspicious that an attempt was being made to kill him off so that he would not be an expense to the city of Cambridge. This man was well and working July, 1916, and his eleven-dollar sleeping porch serves the purpose of a permanent tuberculosis exhibit in his neighborhood.

"Nearly all the trained workers," says Dr. Pratt, "and those that had learned any sort of trade before

their sickness have followed the same occupation since returning to work. When indoor workers have taken out-of-door jobs they have rarely held them. It is usually far less fatiguing for ex-patients to do work to which they are accustomed than to take up some unfamiliar employment. It is most encouraging to find that those who have recovered their health at home are able in the majority of cases to work full time month after month and year after year."

The pursuit of knowledge in every direction is strewn with the records of false scents which have been followed for a time, merely to be abandoned when their falsity was at last recognized.—Lord Cromer.

*Dr. Pratt's recent paper on the Emmanuel Church Tuberculosis Class, published in the Boston Medical and Surgical Journal, was abstracted in THE MODERN HOSPITAL, March, p. 211.



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Universal Military Training

The cure of disease is a great beneficence to the human race. The medical profession and the hospitals have achieved results of vast and far-reaching value in this field. But in the pursuit of our ideals as physicians and trained hospital workers, more especially during the past decade, or since we have really begun to get back to the cause of disease, we have learned that the cure of individual cases of illness is only a by-product of the science of medicine—that the prevention of disease is the one, overpowering, all-important necessity.

And so it has come about that hygiene, sanitation, pure food, nursing care in the home, outpatient service, and what we call social service, have absorbed our time and thought in constantly increasing degrees, and the cure of disease has been relegated more and more to a place of secondary and minor importance—a mere incident on the road to our real goal, the betterment of the race.

It has been at the instance of the medical profession and as a result of our experiences in the study of preventive medicine that athletic training has been encouraged in the colleges, that playgrounds and gymnasiums have been opened for the children in our public schools, and sports have been fostered in our public parks. But we had

hardly paused long enough from the work itself to take stock to see where we were, physically, mentally, and morally as a people, in the light of our recent experiences. Then suddenly the world war came, and called immediately all that was best and strongest in all of the best of us, to meet in open combat all the best that was in our enemies. We were compelled to take stock of ourselves.

How has that stock-taking turned out? Let us see! The Surgeon-General of the United States Navy has reported that, out of 106,392 applicants for enlistment for the strenuous work of the war, 70 percent were rejected because of physical unfitness. The Surgeon-General of the Army has found, as a result of the past draft of 1,300,000 young men between the ages of 21 and 31, that only 448,859 were found physically fit, more than 66 percent being consigned to the scrap heap so far as their physical qualifications were concerned.

These figures must jar us mightily from our pedestal of smug self-satisfaction. We are an unfit people—the majority of us, even measuring by the very best of us, our young men, the fathers of the next generation.

What are we going to do about it? We know that physical fitness is coupled closely with mental and moral fitness. We know that physical perfection does not just happen so, that it means properly chosen, wisely guided exercise, proper food, proper clothing, ventilation, sanitation, and all in an environment specially devised to insure good health.

We have had a lesson in all this during the few past strenuous months. We have seen some of our boys, pale, undernourished, narrow-chested, nicotine-soaked—we have seen them go into the training camps of the army—and in three months we have not known them. They have come home to visit among their home folks for a few hours or days occasionally—strong, vigorous, light-stepping, upstanding, clear-eyed, clear-brained young athletes, fit to fight for a nation's rights.

Suppose the war were to end tomorrow, could these boys go back again to their old physical unfitness? Never. They have tasted health, and they have learned how it may be theirs to keep, and they propose to keep it.

Does all this mean anything—or is it all wasted? Are we, who are so concerned with the betterment of the race to start all over again, ignoring the greatest lesson that history has ever recorded, seeking in the depths the answer that is written full-size in the face and form of a million of our young men who go from us veritable young Apollos to save democracy?

Can one ask the answer? It is universal military training—not training for war, of necessity, but training for peace, training for fatherhood, for moral, for mental, and for physical mastery, training for the battle of life, not only for themselves, but for all posterity.

And shall we have universal military training? The answer is up to the Congress just now assembled. The whole medical profession is for the Chamberlain bill that prescribes universal military training for every boy in the land. Every thoughtful, well-informed man in the country is for it. Every girl growing to womanhood demands it for the father of the children of whom she hopes some day to be the mother. The nation needs it if her sons and daughters are to grow great and not decay.

Shall we have it?

Standards for Hospital Dietitians

In the Department of Dietetics, this issue, will be found a paper by Miss Rena S. Eckman on the subject of "Standardization of the Work and Training of the Dietitian." Hospital administrators will do well to read this paper and study it carefully, because Miss Eckman, one of the few thoroughly trained dietitians in this country, demonstrates unequivocally, not only the fact that the dietitian has "come to stay," but also the directions of her greatest usefulness.

The dietitian, as Miss Eckman says, goes into the hospital, not to usurp the functions of others, but to make for herself a place that has heretofore not been filled. The cook or chef in a hospital may prepare food most excellently, and the housekeeper or the principal of the training school may manage the serving of it most appetizingly, promptly, and in attractive condition. The doctor may order his patient fed along certain definite lines to secure definite results, in a scientific way. But who is there to carry out the doctor's orders in step with our present scientific knowledge of the special feeding of the sick, unless it be a trained dietitian? What does a cook or chef know about scientific feeding? What does the principal of the training school in the average hospital know about scientific feeding? Yes, we may even ask, what does the average physician know about the practical carrying out of his own orders for scientific feeding?

As Miss Eckman points out, the duties of the modern dietitian have not yet been standardized; the individual in each hospital makes her own place as best she can, fulfilling the demands of the medical profession in so far as she is permitted to fill them, and it is the individual in the concrete rather than the dietitian in the abstract who will

make for or against that office in the modern hospital.

Miss Eckman further points out that the trained dietitian not only will not usurp anybody's functions or privileges or responsibilities, but will see new responsibilities peculiarly her own, the burden of which is not borne by anyone in the average present-day hospital until a properly trained and efficient dietitian is installed in the institution.

A competent dietitian in a hospital will do more to help the medical staff in the proper feeding of their patients than any amount of literature on the subject that can be placed before the doctors. Medical men are peculiarly indifferent to the practical carrying out of such orders; for instance, as those concerning the items of food to be fed to their patients; indeed, most doctors are entirely unfamiliar with the chemical contents of the average foods that go to the table, a fact commented on by Mr. John Phillips Street elsewhere in this issue. There is not one physician in one hundred who could make even a decent guess as to the number of calories or the amount of protein that his patient is getting, even when the menu and the amount of each article of food are before him; but the doctor could tell instantly what he wants his patient to have as to calories and chemical contents. In this connection, we commend the study of Mr. Street's article just mentioned and the very helpful tables which accompany it.

As we have urged many times, the special feeding of the sick is taking an ever larger place in modern therapeutics. We are displacing drugs by foods. The transformation is to grow greater until, in the not distant future, the drugging of patients is to be negligible and the special feeding of the sick is to be of prime importance. It is a certainty that this transformation is to arrive quickly or slowly in proportion to the efficiency of the agencies employed.

It is true, as Miss Eckman says, that there are many doctors who want no brains in the kitchen, but, with all due respect to the profession, it may be said with equal truth that the progressive modern hospital does want brains in its medical staff, and the man of the staff who fails to realize the scientific value of special feeding is not in step with modern therapeutics. The dietitian is not going to leave the modern hospital because such a physician does not want her, but the physician, on the other hand, is going to be dropped from that staff because he fails to realize the necessity for her service and the importance of her presence.

The dietitian has come to stay. The medical man who does not appreciate her is rapidly becoming a "back number."

The Modern Hospital This Year

Entering upon a new year, THE MODERN HOSPITAL thinks it well to take its readers into its confidence concerning promised material for publication.

With this number, we are inaugurating a new department which we think ought to prove of great interest and profit to the hospitals. It is to be called "War-Time Institutional Economies." In this department we expect to publish methods inaugurated in the hospitals for reducing expenses and to improve the service. This new department is to be of value in proportion as the hospitals themselves contribute to make it so. There are individual institutions all over the country whose superintendents have initiative and enterprise and who are instituting various improvements and various economies in step with this critical time in the history of our country. If each hospital will tell us what it is doing along these general lines the sum total of the information ought to improve conditions in the hospitals all over the country. We invite trustees, staff members, superintendents, and department heads of hospitals to contribute to make this new department of value.

In this number also we begin the publication of a series of illustrated articles on nurses' homes. There seem to be no definite standards for the arrangement and construction of nurses' homes and an attempt is to be made to arrive at something like standards in planning and in construction. This series of articles ought to be well worth while, especially to those who are thinking about building nurses' homes and to those who are finding it imperative to increase accommodations in homes already in operation.

The February number of THE MODERN HOSPITAL is to contain a rather exhaustive discussion of problems in small hospitals, architectural, equipment, and administrative. Already there is material at hand for a very valuable symposium on this subject. Many hospitals seem to be intensely alive to the need for discussion of the special problems of small hospitals, and their administrators have contributed liberally to make this number valuable.

Just a little later it is proposed to dedicate a number largely to a continuation of the discussion of the problems of the reconstruction and reeducation of handicapped people, initiated in our Occupational Therapy number last June. Many large manufacturers of the country, filled with a spirit of patriotism and service, are giving a vast amount of thought to the problems of the handicapped, and are undertaking to make surveys in their own establishments to determine whether it

is not possible to turn over some of their technical operations to this class of workers. In this connection, one of the most interesting articles on this subject is one which appears this month, well illustrated, concerning the operations of the Crocker-Wheeler Electrical Company, where the winding of armatures and the manufacture of special apparatus is being taught to the blind.

Many commercial operations require very special skill of certain parts of the body. Some of these need only the hands and fingers. Some of these operations do not need feet or legs in their doing; many others can be done by one-armed people.

The scarcity of labor incident to the war has made it absolutely necessary for us to utilize every possible labor resource, and it is a most promising commentary on the patriotism and resourcefulness of our people that they have entered heart and soul into the attempt to use every particle of energy, man power, and mind power, that our population affords. The exhaustive discussion of these many problems ought to be of intense interest and profit.

This year is to be a practical year in the columns of THE MODERN HOSPITAL. We propose to get down to cold facts, and, to the end that we may do so in a practical way, we very genuinely beseech the hospital people to help to make this year's MODERN HOSPITAL one of practical usefulness in the institutions of the country.

A Chance for the Delinquent Boy

The normal boy is an adventurer, who would look forward with more joy to being a pirate than a bank president. This is not because of innate depravity, but because youth demands and must have an outlet for its energies, and learns only through slow experience that there is scope for daring and bravery and endurance in what looks like the dull muddle of civilized pursuits. The boy who has not been by turns Kit Carson, Captain Kidd, and Big Chief Bear-on-the-Warpath has missed something out of life for which no later honors or successes can compensate. On the other hand, the boy who has the misfortune to grow up amid surroundings which starve his imagination and prevent his natural craving for adventure and achievement from working off in healthful play—the boy to whom outwitting or defying the corner policeman is almost the only deed of reckless prowess imaginable—this boy is likely to be branded as a delinquent and a lawbreaker before he outgrows the restless instability of youth. Hence it comes that among so-called juvenile criminals are many boys who are not essentially differ-

ent from the boys of our own families. Given a fair chance, such boys will prove themselves worthy of an honorable place in society.

For instance, from England comes the record of the boys of the Philanthropic Society's Farm School at Redhill, an institution apparently much like our reform schools. *The Hospital* says that most of these boys do well in after life, and that, among 761 former pupils of the Farm School serving as soldiers or sailors in the present war, the following particularly creditable showing of honors is distributed: six mentions in dispatches, seven awards of the D. C. M. (one twice), eleven Military Medals, three Russian Crosses of St. George, one Military Cross, six commissions from the ranks, and a considerable number of various degrees of non-commissioned rank. "Not a bad record," remarks *The Hospital*, "for boys who might under other circumstances have become a misery to themselves and a misfortune to their country."

Similar testimony comes from an American engaged in correctional work. "The average boy who is sent to us is the boy who in the beginning did not have 'a man's chance,'" says Mr. A. G. Blakey, superintendent of the Missouri Reformatory, on another page of this issue; and he goes on to say that work is the most valuable remedial agency that can be offered the boy who has begun to go wrong. The boy workers of the Missouri Reformatory are "doing their bit" in food production for the country in its hour of need, and among them are several, Mr. Blakey tells us, who are doing splendidly without supervision.

We are beginning to learn that it is not only foolish but wicked to waste wantonly a lump of sugar or a scrap of good bread. Let us hope that we shall not be long in learning the even more important lesson that to waste the country's human resources is even worse economics than to waste food. A chance for the delinquent boy is not merely justice to him. We cannot afford to waste the good material in many of these so-called delinquent youths.

The Demand for More Study of Tuberculosis

Every so often some serious student of medicine brings us up with a sudden jolt from our comfortable, if not smug, self-satisfaction with the direction in which we are going and the progress we are making. Just now we are referring to a "Letter to the Editor" on "More Knowledge Instead of More Sanatoriums," by Dr. Mary E. Lapham, published in the December number of *THE MODERN HOSPITAL*.

Dr. Lapham takes the medical profession to task for not attacking the problem of tuberculosis

by way of prevention instead of at the stage where palliation or possible cure are our only hopes. She insists that if a serious and scientific study of tuberculosis were made we would soon have fewer hospitals and fewer sanatoriums. Such letters as Dr. Lapham's are mighty well worth while; they give us pause to inquire in our own minds as to whether or not we are on the right track.

But we doubt very much whether Dr. Lapham is quite fair to the present-day status of the problem of tuberculosis. The National Association for the Study and Prevention of Tuberculosis has done an immense amount of work in the field of research. Scientific investigators all over the country have been working at it and probably more progress has been made in the last two or three years than in all the time that has gone before, but there are still many unsolved problems, of course, the most important being the remote cause of tuberculosis. While it is true that we know very little about the bacillus, except in the one stage of its development, that fact is not because we have not spent the energy and enterprise and skill and scientific inquiry to find out.

Of course, it is true that one of the first effects of a better knowledge of tuberculosis will be the closing of some hospitals and sanatoriums, but it seems to us that the hospital or sanatorium is the best possible place to study the problem, as a laboratory—and then again there are some places in this country in which tuberculosis sanatoriums have been closed notwithstanding an increase in the number of cases of tuberculosis and in the number of deaths therefrom. For instance, just now at Kansas City, a very fine new municipal tuberculosis sanatorium is being closed "for want of funds," but tuberculosis in Kansas City is on the increase.

Let us by all means study harder on the problem of tuberculosis, going back, if we can, to the remote cause of the stimulation into activity of the bacillus, but it does not seem to us that we have arrived at a stage beyond where we can think about closing hospitals or sanatoriums in order to meet the demands of the problem.

Three Stimulating Contributions on Employment

In other columns we are publishing papers by Mr. John L. Whitman, state superintendent of prisons for Illinois and one of the best-known prison reform experts in this country, and Dr. E. L. Hill, managing officer of the Jacksonville (Ill.) State Hospital; also a letter from Mr. A. G. Blakey, superintendent of the Missouri Reformatory, on the subject of institutional occupation. Mr. Whitman takes the subject as it affects the

criminal, Dr. Hill as it affects the patient in the hospital for the insane, and Mr. Blakey as it affects the delinquent boy.

These are notable papers, on a subject the importance of which we are just now beginning to appreciate. While Mr. Whitman does not say so in his present paper, he would doubtless be willing to admit, as he has often admitted, that the criminal is not very far removed, as a class, from the patient suffering from a disease of the mind. Mr. Whitman and Dr. Hill agree that the greatest possible hope for cure lies in properly applied occupation, occupation that may and should be prescribed as a therapeutic agent. So does Mr. Blakey, though, as a "plain blunt man," he will have none of that mouth-filling term, "occupational therapy," but pins his faith instead to "plain, old-fashioned work."

The war, already furnishing its millions of maimed and handicapped derelicts, society turning out from its ill-balanced processes other millions of irresponsible and handicapped misfits, make it one of the most urgent needs of the time that we master this all-pervading problem of employment—master it so that industrial labor in its highly specialized competition will not be set up against state-aided labor, in a competitive way, but so that both forms of occupation may contribute their just quota to the sum total of the world's wealth, while contributing at the same time to the well-being of all.

This is a field in which the medical profession and the student of modern hospitals may find unlimited material upon which to employ all their imagination, all their resourcefulness, and all their great heartedness.

Solving Hospital Problems

When you have a hard hospital problem to solve, it is poor policy to sit down, before you have concentrated on the problem whatever good sense, initiative, and resourcefulness you yourself have, and pore over the literature to see what someone else has done under like conditions. It is almost certain that when you find a case in point it will differ from your own problem, and generally it will differ so greatly that what the other fellow did will not apply to your own case at all.

Most hospital problems are capable of solution by the logical employment of common-sense principles. There are no secrets and no mysteries about hospital business. It is true that what small literature we have is a veritable gold mine of the collective experiences of hospital workers, but it requires common sense and initiative for anyone to apply the experience of others to his own case at hand. Many hospital workers are utterly helpless unless they can find somewhere in the literature just exactly a case in point, and there are so few cases that will fit all the conditions.

THE HOSPITAL—A TEACHING INSTITUTION*

Difference Between Teaching and Non-Teaching Hospitals in Favor of the Former—Advantages to the Patient, the Hospital, and the Student From Ward Teaching—Superintendent's Duty to Educate His Board of Trustees

BY HAROLD C. GOODWIN, M. D., Superintendent Albany Hospital, Albany, N. Y.

A teaching hospital is one that offers to medical students and physicians the greatest opportunity for study and provides better care for its patients.

A teaching hospital differs in many ways from the non-teaching. The aims of one are far different from the aims of the other, and it takes years of adjustment and changes in organization and equipment before the final touches are applied. One seeks to lead in the world of medical improvement and science; the other merely follows. When the object of an organization is only to care for the sick who apply for relief, it naturally develops in no other way. Its doors are thrown open to many of the reputable physicians in the community, and, in some instances, to all registered physicians, with the idea of encouraging these men to send their patients to the hospital. Is it not a mistaken idea that such a hospital is doing the greatest good to the greatest number? In most of the hospitals without medical school association, the training school is considered as a necessary adjunct and develops according to the local needs, seldom with the idea of maintaining a model school for nurses. Development is apt to be in a one-sided manner, surgical cases predominating. New methods of administration, treatment, etc., are used only after the developmental work has been done in an institution where study and research are carried on systematically.

The organization of one is apt to be loose and disconnected. The trustees are often chosen on account of wealth or social prestige, and appointments to the staff are made as a result of large private practices or social or political influence. In the teaching hospital the organization is built up carefully. Trustees are selected because they are leaders in philanthropic and educational work. Appointments to the staff are made because of ability. The superintendent and the principal of the training school are selected because they are in sympathy with the development of higher education and not because they are willing to submerge their ideals to carry out the wishes of an unwise and penurious board. New medical men of ability coming into the community are sought rather than repulsed, and often vacancies are left open for long periods waiting for men of the right caliber to fill them.

The two institutions differ in the character of their patients. One caters to a large private-room clientele in order to earn its existence, the other to a large ward service for possibilities of study, seeking the necessary financial aid for its maintenance from those private individuals who have sufficient means to contribute to the relief of their less fortunate neighbors.

In the non-teaching hospital there is no incentive for the attending men to undertake prolonged and connected study of cases and report results, and the stimulus of an alert student body is lacking. Scarcely ever is attention given to the training of the interns or to checking the clinical findings by autopsy or end-result work. The authorities in many non-teaching hospitals allow physicians

*Read before the American Hospital Association at its nineteenth annual session, Cleveland, O., September 12, 1917.

to charge fees, not only to those who are paying more than the cost of maintenance, but also to those who are taken care of at a loss in the public and semiprivate wards. The end results of such a method are not always commendable. The case in question is worked out by a single individual with few if any notes or records, while in the other type of hospital there is clinical team-work, and it is the rule rather than the exception for each man to consult with all the other specialists.

It is recorded that the first step taken by any hospital toward teaching was in 1762, when the Pennsylvania Hospital founded a medical library. Although the Pennsylvania Hospital was founded so that the student "must join example with study," it was not until later (1765) that, through the efforts of Thomas Bond, bedside instructions were given. The New York Hospital, in 1776, did the same, and although it is well known that a library is more necessary to a medical student than a stethoscope, there are hundreds of hospitals today without a library and with no funds available for even the ordinary medical journals. After the establishment of libraries it was only a short step to allowing the apprenticed student to follow his preceptor through the wards, providing the preceptor had such privileges himself. For over a hundred years the method of teaching was practically a disgrace. Schools were run as diploma mills. Advertising and laxity in preliminary requirements kept the student bodies large. Hospital bedside training and clinical laboratory work could in most instances be obtained only after graduation. The positions as interns were much sought after and hard to get. There were few standards regarding curriculum or time to be spent in study. Lectures and recitations were the only method of instruction, and laboratories were scarce, ill equipped and rarely used. Many schools existed without any connection with university or college, and others that advertised as parts of such were in many cases bound together by the weakest of bonds. The parent institution was not sponsor for the finances or even acquainted with the opportunities offered, but every detail was in complete charge of a group of physicians who divided the fees and encouraged the students, after graduation, to send for them as consultants, although the university or college allowed its name to be used.

During the last ten or fifteen years the standard of medical education has advanced. In many instances the first two years' teaching has been in university laboratories and by university professors. The contrast between these exact methods and the methods in vogue for the last two years of clinical work was so great that the authorities were aroused to their responsibilities. The severe criticism of the Carnegie Foundation also brought many of them to an abrupt halt. Dartmouth Medical School recognized that without large and well-equipped clinics the last two years could not be taught. It is fully understood that the last two years of medicine must bear as intimate a relation to the hospital as the first two years bear to the physiological, chemical, biological, and anatomical laboratories, and that no greater stress should be laid on the first two years of laboratory work than on the last two years of clinical hospital medical school work. The last half of a medical student's work should be carried on in a "hospital medical school."

Is it not possible that the chaotic relations existing between hospitals and medical schools, as shown by the Carnegie report of 1910, were in a great measure due to unsympathetic superintendents, who had allowed themselves to live in a narrow groove and had not tried properly to

influence their trustees to see this duty and the advantages it would bring?

It is just as much the duty of the superintendent to educate and train his trustees for the benefit of his institution as it is for the general manager of any mercantile business. Do our boards employ us merely as errand boys to carry out their ideas, or do they desire us to show some initiative?

An institution which has been under the control of one executive for a period, say, of ten years, reflects very clearly his attitude, and if after this length of time he looks back and sees that his board is not following him, but he is following them, he can truly say he has failed. I remember well the advice of a friend at a time when I was assuming a new position:

"Learn their methods. Do not try to introduce new things at once. It may be that they have good reasons for the different way in which they conduct their affairs. The ideas you think are new may have been tried fifty years ago and found impossible. Drop in without making a splash, and, after you are in, grasp one thing at a time. Work hard and long until you know every detail and your board knows you. After you are no longer new, you will be better able to weather any storm of opposition which appears when you try to introduce beneficial changes."

Although the past is dark as regards hospital teaching, the present seems bright. In the first place, there are fewer medical schools, and those that have survived have materially raised their standard of admission and teaching. Students are no longer diverted by glaring advertisements from mechanical trades, which they have started to learn. State legislation all over the country is tending toward better preliminary education and even toward a compulsory fifth year to be spent in a hospital. This condition will be ideal, for then no longer will the medical school with wholly inadequate facilities for turning out properly trained physicians be able to inflict on a long-suffering community men who must get their medical education after they have graduated. Then, again, students who have graduated from such an institution will not find afterward by bitter experience that, although they have spent their time and their money, they have failed to receive competent instruction and experience. Can you imagine the feelings of a young physician, after spending four years in connection with a poor teaching institution, on finding out that he has been given the most meager kind of an opportunity and is not qualified by the instruction he has received to be on a level with men who attended a medical school connected with a reputable university with every facility for teaching?

The time is rapidly approaching when all hospitals are to be standardized and inspected regularly by competently trained men, and this is as it should be, particularly as regards teaching institutions, for it should be thoroughly understood by the general public what the rating is of every hospital, as compared with other hospitals offering their wards for teaching purposes.

Now that all agree that the teaching hospital with its wards and dispensaries and varied clinics is necessary for the last two years of instruction of a medical student, there are a great many affiliations being made between hospitals and medical schools. In some cases a university or college has founded its own hospital in which the professors teaching certain subjects have complete control of the clinical material in the wards and dispensaries of the hospital. In other instances, gentlemen's agreements are being made between boards of trustees of the two institutions which effect the same purpose so long as the clinical

material is absolutely under the control of the teaching staff. This form of union means that the controlling body of the medical school and the hospital must be of the same mind, otherwise there is little chance for success. The superintendent and his board of trustees must know that a teaching hospital is much more expensive to run and the per capita cost of caring for patients is higher. A broad-minded executive will readily see that the benefits derived by using the wards for teaching purposes and the laboratories for research work are so great as to warrant this increase in the expenditure of money.

While not every hospital can be connected with a university medical school, each can in a way become a teaching institution and gain a great many of the advantages of having a student body using the clinical material for study. Each hospital, no matter where situated geographically, should be the center of teaching to which the men in the surrounding country may turn when they wish to increase their experience or carry on some special study. The laboratories of these smaller institutions should be equipped adequately, and the men in charge of the different services, such as medicine and surgery, should build up clinical teams composed of men practicing in the vicinity who are anxious to devote some portion of their time each day to hospital work, with the idea of keeping abreast of the times. It ought not to be necessary for men to leave their private practices and come to the large cities for six weeks', three months', and six months' courses of post-graduate instruction when a hospital in their own neighborhood can offer the same advantages, possibly not in the amount of material, but by allowing them to come in closer contact with the cases. Such opportunities given to men who have no appointments in local hospitals would tend to do away with the bitter feeling which exists between those who are successful in securing appointments and those who are not. By this method the surgeon or physician on his daily rounds would welcome visiting men of the community, and, without interfering with the opportunities of the intern, be able to give the local men instruction and work to do which would be of benefit to them and make them better diagnosticians, etc.

Let us sum up the benefits to be derived from a teaching hospital not to be had in a non-teaching hospital.

When I was asked to prepare this paper, I had already been interested in this subject for about three years as a result of an effort on the part of our institution to develop its teaching side. It so happens that the board of trustees of the Albany Medical College of Union University and the board of trustees of the Albany Hospital are almost identical in personnel, and the men most thoroughly interested in the one are also most interested in the other. As a result a survey of our institution was made by Dr. Winford Smith in November, 1916, during which survey he outlined a program of development to cover five years. Some of this preliminary work, such as raising funds, etc., necessitated correspondence with men well known in hospital life throughout the United States, and by quoting extracts from their letters I am able to sum up their ideas of the value of such an institution to a community:

Dr. Herbert B. Howard, superintendent of the Peter Bent Brigham Hospital, says:

"Nothing so makes for accuracy of work as teaching in a hospital. Were I a patient I should look out that I was treated in a teaching hospital."

Dr. Winford H. Smith, superintendent of the Johns Hopkins Hospital, writes:

"The question is sometimes asked us why the hospitals should bother with the medical schools, and if teaching in

the hospital does not disturb the patient. Hospitals are the training schools where students of medicine obtain their practical experience, and we must all be interested in the training of competent doctors. Teaching does not interfere with the best interest of the patient, quite the contrary.

"I am of the profound conviction that the hospital which enters into the function of teaching seriously and specifically is the better hospital because of that service.

"Then, too, there is the visiting staff of physicians and surgeons, who, by study of large groups of patients, by the experience gained in operating upon large numbers of patients, acquire a skill and technic which make them authorities in their subjects and leaders in their profession. In the laboratories, too, as a result of careful, routine study, or of painstaking experimental work, new facts have been discovered which have added to the knowledge of disease and the methods of combating it. All of this means progress and benefit to mankind."

Dr. Renwick R. Ross, superintendent of the Buffalo General Hospital, says:

"The patients of any hospital which has a teaching staff are far better cared for and more scientifically treated than in hospitals without such an organization."

Dr. A. R. Warner, superintendent of the Lakeside Hospital, says:

"Not only are the sick of the wards and in the home city benefited, but standards are impressed upon hospitals and all physicians who come in contact with the work. The students and interns carry its standards and advancements to surrounding communities. The common level is thereby markedly affected. The good hospital therefore not only opens its wards to medical students for educational purposes, but also considers it an obligation to collect and continue to furnish a thinking staff that they may contribute to and that they may establish better routine treatments and treatment patterns for the future guidance of local physicians, interns, and students.

"As to research, it may not be possible for all institutions to make wonderful discoveries, but it is possible for every teaching institution to acquire a staff of independently thinking and working medical men by providing opportunities for this work. The gain in new discoveries may be nothing, but the gain from the work and the working conditions will add to the effectiveness of the institution as expressed above sufficiently to justify organization and expenditures along this line.

"Not all hospitals can attain such organization as outlined above. It seems extremely difficult for institutions not connected with universities to attain the full measure of usefulness. The presence of a university staff, the university ideas, and accepted university customs appear essential. Given this, however, the attainment for the community of a medical institution of the highest value and usefulness depends absolutely and wholly upon purchasable facilities. If to a university foundation good facilities for work are added, men of the highest standard become readily obtainable and the benefits to the community are thereby assured."

Dr. George Blumer, dean of the Yale University School of Medicine, writes:

"The advantages to a general hospital of affiliation with an A class medical school are very great. I am assuming, of course, that it is taken for granted that in an A class school the heads of the clinical departments are able to devote at least the major portion of their time to teaching, hospital work, and research. Personally, I am convinced that it will only be a matter of a few years before all of the better schools will have so-called full-time clinical professors; but, even if this condition does not exist, to approximate it is often possible owing to the devotion and self-sacrifice of the heads of the clinical departments in a given school. The main advantages which accrue to a general hospital from affiliation with a first-class medical school are associated partly with the organization of the hospital and partly with the personnel of the school.

"I am assuming that the organization of the hospital under such a plan would not be the ordinary American organization whereby there are multiple heads of depart-

ments who change at frequent intervals. On the contrary, I assume that each major department is under one responsible head, who is in a position to maintain a uniform policy and to whom associates are responsible. Such an organization is one of the great assets of our university hospitals. In the second place, affiliation with a medical school insures to the hospital, as a rule, a more highly trained staff than can be obtained in the average community, for the reason that a first-class medical school does not depend on the physicians of the community for its heads of departments, but selects men for these positions on merit alone. This being the case, such men are naturally specially trained for the positions they are to occupy; and, furthermore, their teaching being their main work, they are able to devote a great deal more time and thought to the affairs of the hospital than was possible under the old system of rotating services in which the heads of the department were picked from the community and under which they depended upon their practice for their chief source of income.

"Furthermore, a medical school brings to a hospital an organized body of experts in the medical sciences, and nowadays in the thorough study of disease we have to rely upon the coordination between practicing physicians, physiological chemists, pathologists, serologists, bacteriologists, roentgenologists, etc. It would be almost impossible for the hospital to assume the burden of carrying such a staff of specialists without the aid of a well-organized medical school.

"It should also be noted that the students themselves are a distinct asset to the hospital and not, as the laity sometimes assume, a source of worry and friction. As teaching hospitals are now organized, the medical student is as much a part of the machinery of the hospital as the intern. He frees the intern from a good deal of simple routine work and permits the latter to carry on the more complicated and exacting kinds of work so that the more careful studying of the patients becomes possible. My experience here in recent years has resulted in the very decided opinion that it is very exceptional for patients to object to the presence of students in the wards, and that many of the patients enjoy being used for teaching purposes, as they feel that their cases are thoroughly discussed, and, indeed, I think, actually are conscious of the fact sometimes that they are acting as benefactors to the race."

Dr. Charles F. Painter, dean of Tufts College Medical School, says:

"The poor equipment for present-day clinical teaching, or one which is so far disassociated with the school that it cannot be used without great waste of time, is a decided disadvantage to a medical school. The public, of course, is not in a position to realize the advantages of this arrangement, but is becoming more and more acquainted with the actual condition, and as laymen do become acquainted with it, they will unquestionably appreciate the advantage it is to them to have an institution that is thoroughly prepared to educate the doctors that are to practice in their midst."

Dr. J. Whitridge Williams, dean of the Medical Department of Johns Hopkins University, writes:

"After many years' acquaintance with hospitals, I have no hesitation in saying that the greatest good is not obtained, either from the point of view of the care of the patients or in the advancement in medicine, unless the hospital facilities are freely utilized by medical students. It has been my observation that in hospitals in which students are not admitted the medical work tends to become routine and casual in character, whereas when the patients are utilized for the instruction of students their instructor is on the qui vive and makes every effort to see that the most accurate diagnosis is made and the most appropriate treatment followed, as he knows that if he fails to do so the omission and error will be promptly detected by the students. Furthermore, the utilization of students in general hospital work is of the greatest possible benefit to the patients, as it enables many laborious examinations and investigations to be made which without them would require the services of a much larger resident staff. It goes without saying that at the present time no hospital can be

advantageously conducted without the services of the highest type of trained students."

Dr. William Pepper, dean of the School of Medicine, University of Pennsylvania, says:

"The University of Pennsylvania recognized this fact, and in 1873 built on the campus the university hospital for the use of the medical school as well as for the benefit of the people of Philadelphia. This hospital was the first hospital erected in this country as an integral part of a medical school, and ever since organization, the staff of the hospital has been composed solely of members of the teaching staff. I do not see how anyone can have any other view than that all of this is as it should be. There is no doubt in the minds of any of us at the University of Pennsylvania that on account of this intimate relationship the patients receive better and more skillful care and attention than they can receive in a hospital unconnected with a first-class medical school. There can be no doubt that the students receive better instruction in the university hospital than they could receive in any other hospital in the city, and there is also no reason to doubt that the nurses receive a better course of instruction than they could receive in another hospital. I know that in Philadelphia this view is gradually spreading among the people at large. Personally, I believe that the time will come when every big hospital will want some sort of connection with a good medical school and will seek such connection."

Dr. Charles N. Meader, dean of the School of Medicine, University of Colorado, states:

"It is of course well recognized among the superintendents of teaching hospitals that the stimulus to careful work and more careful record-keeping on the part of the staff secured by the presence of an aggressive and intelligent student body, is an invaluable asset to the teaching hospital. From an economic standpoint alone, the opportunity of securing the services of a group of well-trained students without financial compensation to them should make special appeal. A further good, sufficient argument in itself, of which the force will become more and more apparent in the future, lies in the duty of a hospital to its community, state, and nation, not only to care for the sick of a day or of a year, but to do its share toward the efficient care of the sick of the future. However earnest and intelligent a student may be, he cannot become a thoroughly trained and effective physician by didactic work alone. Not merely some clinical work, but clinical work in abundance and under the best facilities during his third and fourth years, is essential to this result. And I should like to emphasize the importance, not only of his seeing many cases, but of his having ample opportunity to study them both through bedside observation and through the use of modern diagnostic methods and instruments. Such a program is expensive, but it must be met by all medical schools of this country. To meet it they must have the cooperation of all enlightened and progressive hospitals accessible to them."

To sum up the advantages of a teaching hospital, I should say that the greatest advantage is, first, to the patients, because of the complete equipment such a plant provides; second, to the attending men, who must keep to the front or be superseded; third, to the interns who are fortunate enough to secure an appointment; fourth, to the student body, which is allowed the freedom of the hospital; fifth, to the training school for nurses, which always has before it the examples of well-trained men doing careful work; sixth, to the surrounding community, which as a result has a higher standard of practicing physicians in its midst; seventh, to the physicians in the surrounding country, who are able to see in consultation and otherwise the best men in their respective specialties; eighth, to science, because in the teaching hospital new therapeutic and diagnostic methods can be studied by means of its trained clinicians and laboratory workers, which cannot be done in a non-teaching hospital, since the latter has neither the properly qualified staff nor the equipment. In other words, the advantages to the community are so great that all should

unite in its common support and no institution of this character ought to be embarrassed, for a single moment, for lack of funds. The wealthy men of this country and the foundations created by their wealth are realizing that efficiency in hospital work is as necessary as it is in a manufacturing business, and that the lowest per capita cost does not always mean the best run institution. Waste in everything should be discouraged, but money spent in teaching and study is potential energy being stored up for future use and is the best kind of preparedness for a community.

The organization of a teaching hospital cannot be loose or haphazard. The board of managers must be keen men, interested in the large affairs of life, and public-spirited enough to devote much of their time to the proper fulfillment of the trust imposed upon them.

The best method of organization is for the university to maintain its own hospital; then the control is always certain and the wards will ever be freely open to the teaching force. As this is not always possible, the arrangement of interlocking boards or gentlemen's agreements should be made, but in such a way as to insure permanency.

The superintendent and the principal of the nurses' training school should themselves have developed under the methods in vogue in teaching hospitals, so that they will readily grasp the point of view and needs of the teaching force, whether it be in the way of material to work with or of nurses to supervise special work and departments. This means that the superintendent of such an institution should be a physician who has enjoyed the widest opportunities himself, for it cannot be supposed that a man who has been a good accountant, a lawyer, a minister, or a hotel man, can develop the understanding and sympathy necessary for the proper administration of a hospital in conjunction with a medical school. The administrator who fails to take advantage of every opportunity for conferences with the professors or heads of the different teaching departments will soon find he is not in touch with the aims and cannot see the whole picture of which each department is a part.

The staff should have a continuous appointment and should be appointed only when holding the same position in the university. Each department head should have complete control of all the material for his work and be responsible for not only his own work, but that of any assistants he may see fit to introduce in subordinate positions as his aids. He should also be on the special committee composed of the various heads of main departments, the function of which committee it is to advise the board of trustees regarding policy and to pass upon the qualifications of those recommended for appointment to the hospital staff. Thus he will have authority enough to see that competent men who will cooperate in his department are appointed, excluding the men who are incompetent.

No hospital should attempt to affiliate with a university medical college as a teaching institution whose finances are in a poor condition. A large endowment or special gifts for specific purposes should be available, sufficient to allow maintenance of a clinic large enough for teaching. The ideal method is to have full-time men at the head of the different main departments with enough salaried full-time assistants so that the work can go on uninterruptedly.

The physical condition of the plant should be so arranged that there are enough wards for each department. Adjacent to the wards should be small clinical laboratories fitted up completely for the routine work and under the supervision of a technician specially trained for this work. The students during their third and fourth years under

the supervision of departmental heads should have complete access to the patients in these wards. Should be responsible under supervision for the histories, physical examinations, and laboratory work, and should suggest treatment, following the cases from admission to discharge, filing their personal records in the records of the hospital, of which they become a permanent part, and in case the patient dies, writing up a complete report of the findings in the autopsy room and pathological laboratories. In addition to small clinical laboratories, there should be the larger laboratories for physiological chemistry, bacteriology, pathology, roentgenology, electrocardiography, etc., as well as the operating rooms to accommodate the different specialists.

The dispensary should be modern and absolutely under the control of the same departments in the medical school. Here also should be laboratories so equipped that certain clinical diagnosis work can be undertaken. If the laboratories are not near at hand, students fail to see the relation between physical diagnosis and laboratory work. Here, as in the hospital wards, the student body of the third-year classes should assist in dispensary routine and study the different cases under proper supervision. There should be rooms enough so that they can work either singly or in groups of two in preparing the histories, physical examinations, and suggestions for treatment of patients who come to the clinic.

The autopsy room should be well equipped and under the control of the pathologist. This is the place where the mistakes of diagnosis are clearly shown and where the student can see for himself what he has been more or less surmising, while following the case in the wards. In no other place can gross pathological conditions be so thoroughly impressed on the student mind.

There should be a library and record room in which are kept the standard books and periodicals and the completed records of cases treated in the institution, with desk room enough to encourage the students and interns to use them. The records should be accessible by carefully kept card indexes. These indexes should be as follows: a name index and a disease index compiled after some standard classification and properly cross-indexed for complications, etc. The case records should contain in detail a complete history of the case before admission, physical examination and notes during the hospital stay, together with all the data from the different laboratories.

In the foregoing I have tried to show that the student should be brought into close and active relationship with the patient. Not only should all hindrances be removed, but he should also be given as much responsibility as is possible. The clinics should furnish a variety of cases and not a superabundance of one to the detriment of the other. Therefore the number of cases treated in any hospital during the year is not a fair index of that institution's teaching ability. The same is true regarding the dispensary.

In the Albany Hospital the students in the third-year and fourth-year classes are given access to the wards and the dispensaries under the supervision of the men in charge of the service. While on the wards the students are required to wear white coats. If they have surgical appointments, the cases admitted are assigned to them, after which they take the history, make tentative diagnosis, make and record complete physical examination, demonstrate the cases to the other students under the supervision of the surgical chief, assist at the operation, and follow the cases to recovery and discharge, always being encouraged to suggest treatment. Their notes are looked over by the chief on his regular visits and criticized be-

fore the surgical class. The clinical laboratory work is also done by them, under supervision.

If they are assigned to the medical service, they have exactly the same intimate connection, and they answer certain emergency calls in company with the intern, who is responsible for the service, do the clinical laboratory work, demonstrate the cases to their classmates, submitting their own notes for criticism.

Thus you will see that the work done by the medical student in his third and fourth years is practically the same as that which was formerly done by the intern during the first three to six months of his service. When he enters the hospital as an intern he is already familiar with a great deal of the routine of an institution and much more valuable to himself and to the hospital than when not taught in this way. After the completion of the twelve or eighteen months' intern service, it is not unusual for these men to seek positions as residents, so that they can stay in the institution for a longer period.

They have become imbued with the university idea and methods, and are anxious to stay until they are better equipped to enter practice.

I am thoroughly in accord with the men whom I have quoted above and believe that every hospital should develop its teaching side to the fullest extent, if for no other reason than that the hospital may become a better hospital for having done so.

STANDARDIZATION WELL STARTED

General Committee Meeting in Washington Makes Plans in Detail—Hospitals to Get Strong Support

The general committee of twenty-five, appointed in connection with the program of the American College of Surgeons program for the standardization of hospitals, met in Washington on December 8, 9, and 10. Only about a dozen members of the committee were there, most of the other men being on active service with the army.

The meeting was a most enthusiastic one, and some very important work was done, the principal item of which was the completion of a questionnaire to go out to all the hospitals with a letter asking them to participate in the program of standardization. It was decided after much discussion that the questionnaire ought to be a very full and complete one, intended to elicit much information that will be highly useful to the hospitals themselves and framed in a way tending to lead up to the installation of methods and practices in the hospitals that will make it possible to draw some comparisons between individual institutions.

It is to be hoped that the hospitals will realize that this program of standardization is not to be in any sense hurtful to any hospital. The discussion on this point at the Washington meeting was most illuminating, and there was no difference of opinion among those present.

The purpose is to try to ascertain just what the hospitals are doing and to aid them, by suggestions and more material help where it can be given, to better their own conditions.

There are many boards of trustees and even medical staffs in our hospitals that are quite satisfied with the conditions in their institutions. There is nothing so demoralizing to an ambitious and competent superintendent as that attitude on the part of the staff or the board, and it is extremely difficult, when that is the case, for a superintendent to put into practice any new methods whatever or to install any improvements. The first effect of this stand-

ardization will be to support the superintendents in their demands for better things in their institutions.

Some important people in the government service attended the Washington meeting, the first session of which was presided over by Dr. Franklin Martin, chairman of the General Medical Board of the Council of National Defense.

After the morning session on Sunday, December 9, the members of the committee were invited to attend the meeting of the General Medical Board of the Council of National Defense, where they had the pleasure of meeting some members of the council, Admiral Braisted, Surgeon-General of the Navy, Surgeon-General Rupert Blue, of the Public Health Service, Acting Surgeon-General Birmingham of the Army, and their staffs. It was a splendid and most illuminating meeting that the members were enabled to attend.

The various committees that were charged with the completion of the questionnaire in its various parts worked hard for three days and nights. Some of the committees have not yet completed the details of their sections of the questionnaire, otherwise the questionnaire itself would be published in this number of THE MODERN HOSPITAL for the information of superintendents and trustees and staff members. It is to be published in our February number with a more detailed account of what the committee did and plans to do.

One of the best things the committee did was to secure the interest and attendance at the meeting of Dr. Frederick Hoffman, statistician of the Prudential Insurance Company of America, who has agreed to supervise the proper collection and arrangement of all the hospital data that is expected to come in. Dr. Hoffman addressed the committee at length on Saturday morning, and at the close of his address the committee felt that it had secured a powerful collaborator.

While in Washington the members of the committee were the guests of the Council of National Defense and were more than pleased with the recognition by the government authorities of the importance of the work it was doing.

The question, what we want our public health nurse taught, is not easily answered. We want the finished product to possess so many of the attributes of perfection that, if we are to deal with ordinary human nature, compromise will have to be accepted. All are familiar with the descriptions of the necessary virtues required by those anxious to find the right woman for some form of social work, and many can sympathize with the weary head worker of a Children's Aid Society, who replied to such a request, "Madam, if I could find the woman you describe I should marry her, not pass her on to you."—Mary S. Gardner, "Public Health Nursing."

The farmer wearing a long face entered the country drug store. "I've got something wrong with my stomach," he announced, "and I want you to give me something for it."

"All right," replied the apothecary, cheerfully, "what are your symptoms?"

"Every little while something seems to rise up and settle back, and then by-and-by it rises up and settles back again."

The druggist stroked his chin reflectively. "Look here," he said gravely, "you haven't gone and swallowed an elevator, have you?"—Ladies Home Journal.



Fig. 1. Home buildings of the Country Home for Convalescent Children at Prince Crossing, Ill.

THE COUNTRY HOME FOR CONVALESCENT CHILDREN*

Cure and Education of Crippled Children Successfully Undertaken by a Private Institution in Illinois

Several years ago the principal orthopedic surgeons in Chicago were asked what the greatest need was in connection with the work for crippled children. The

*This article has been prepared by a member of THE MODERN HOSPITAL editorial staff from data kindly furnished by Mr. W. J. Chalmers, of the advisory board of the Country Home for Convalescent Children, Dr. Charles A. Parker of the attending staff, and Miss Myra Beck, head nurse.

unanimous reply was: a home in the country where children could be sent for convalescence after serious operations. Mrs. W. J. Chalmers undertook to raise the necessary funds, and, through generous subscriptions from Mr. J. Ogden Armour, Mrs. John W. Gates, Mr. George Griffin, Mr. James Patten, Mr. Julius Rosenwald, Mr. R. W. Sears, Mrs. Edward Morris, Mr. R. T. Crane II, Mrs. Howard Spalding, and others, a home accommodating forty children was made possible and was opened in July, 1911, at Prince Crossing, Ill., a station thirty-two miles from Chicago. An addition given by Mr. John G.

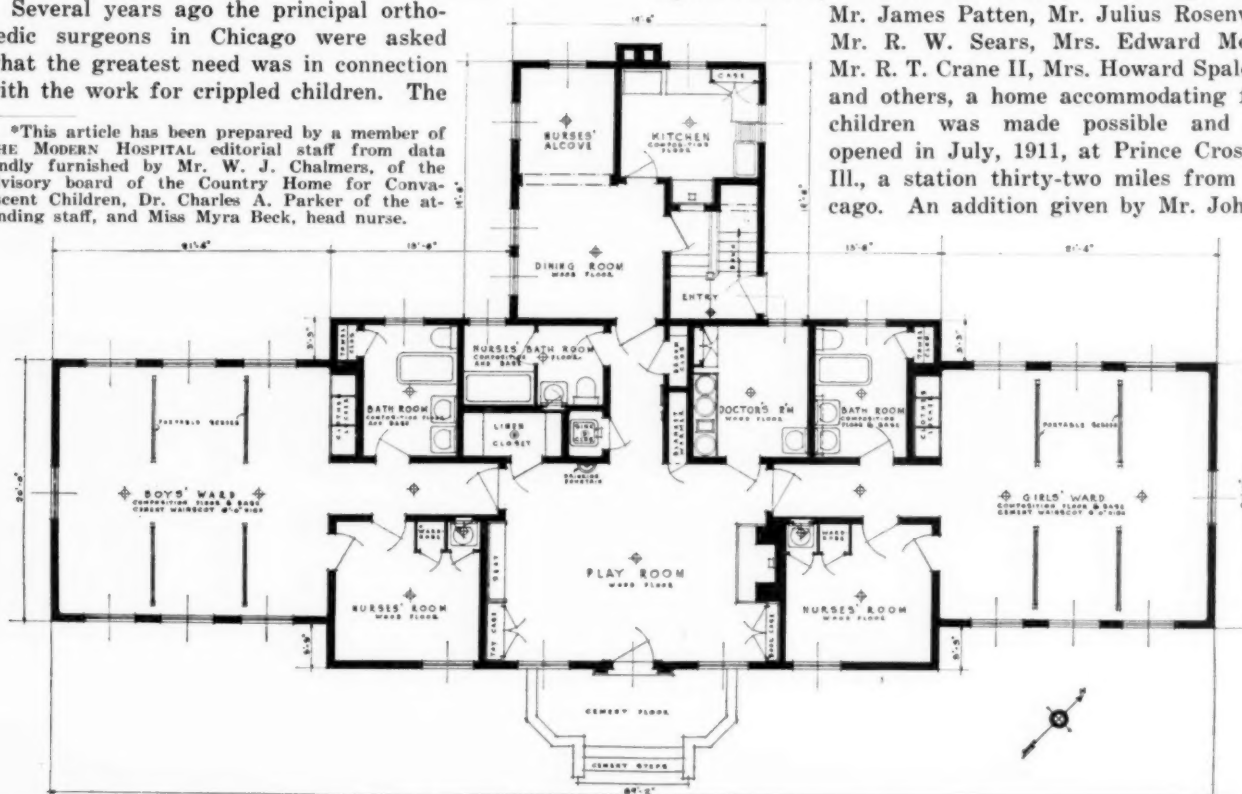


Fig. 2. Floor plan of the Lolita Armour Hospital building of the Country Home for Convalescent Children. Graham, Anderson, Probst, and White, architects.



Fig. 3. Outdoor ward for bed patients.

Shedd has since permitted the reception of seventy-five children. Miss Margaret Little is superintendent.

The home is affiliated with the Rush Medical College, which furnishes the orthopedic staff. It receives after operation children between the ages of 4 and 12 for an unlimited period of convalescence. In addition to free care from the best orthopedic surgeons and physicians, specialists for the eye, ear, nose and throat, and general practitioners, the children have the advantage of life in the open air and the sunshine. Nor is their education neglected meanwhile; a school has been established, under Miss Rebekah Lesem, with Miss Nina Tappe as assistant, with manual training and domestic science departments, and a kindergarten is soon to be added. Even the bed patients receive instruction. Although the instruction periods are of necessity short, many of the children keep abreast of the work in the public schools.

With the object of encouraging initiative, usually so lacking in institutions, as much responsibility as possible is thrown on the children themselves. Some are held responsible for making the beds; one of the older children assists in the teaching. The grounds are kept tidy by the children; in their hands is much of the discipline of the school, such as the dismissal of classes and responsibility for the appearance of the schoolroom. The open-shelf libraries are largely managed by the children, and so are the clubs which have been organized among them. Indeed, there is little or nothing of the typical repressed institutional child to be seen in these busy, eager, romping children, and one has to look from the smiling faces to the telltale crutches or braces in order to realize that these are indeed the unfortunate sufferers from most serious handicaps. Freedom and initiative, however, are not attained at the expense of discipline, wise supervision, rather, makes itself as efficient and unobtrusive as possible.

In the manual training department, the girls learn needlework, the younger ones learning the fundamental principles of sewing through making the necessary articles for a good-sized

doll, doll's bed, and doll's table. The older ones, besides making such articles as linen towels with hemstitched or crocheted borders and children's bibs decorated with cross-stitched designs, help with the household sewing, hemming towels and table linens and doing darning and other mending. The manual training work of the boys takes the shape largely of the construction of toys—carts, toy animals, doll furniture and bed trays. A sale of articles made by both girls and boys is held annually, and 40 percent of the proceeds is given to the children. The last sale brought in receipts amounting to \$1,900. Fifty of them have little bank accounts. This is an inspiration to them, but they are not permitted to over-



Fig. 4. Toys made by children at the Country home for Convalescent Children. These toys and other articles made by the children are sold and 40 percent of the proceeds is placed to their credit.

work. While the children are too young to be expected to support themselves when they leave the home, it is interesting to note that two of the former patients of the home are supporting themselves by the crafts they learned there. One young man has a private class in manual training, and one young woman supports herself by needlework.

One of the valuable educational features is the instruction given the children in neatness, cleanliness, and right living. Not to mention many of the details of care of the person and clothing which some of the children may never have learned at home, the constant emphasis on asepsis of dressings gives many of them an entirely new idea of the importance of cleanliness. With this idea in view, the dining tables have white table cloths; if any child soils the cloth at his place, a little square of white oilcloth is laid there until the cloth is changed.

As this is a home for convalescent children, no operative work is undertaken in the institution, but careful supervision is exercised over the children throughout their

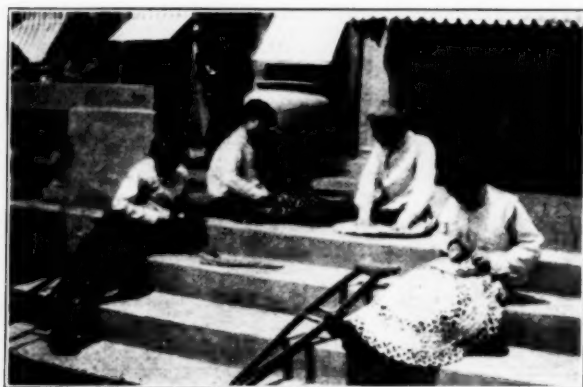


Fig. 5. Some little rug-makers at the Country Home for Convalescent Children.

stay in the home by a staff of orthopedic surgeons, of which Dr. John Ridlon is the chief. Braces are supplied and kept in repair, plaster casts are changed, and various non-operative procedures are carried out according to the individual requirements. If further operative measures are indicated, the children are sent to some of the several Chicago hospitals that are always ready to receive them.

The plant includes a farm of 96 acres, twelve cows supplying the milk so much needed for patients of this class. Vegetables and fruits are grown in sufficient quantity not merely to supply the season's needs, but also to fill a store-room with several thousand quarts of canned food. The buildings include, besides the main building with its wards, dormitories, dining room, school room, and play rooms, one for boys and one for girls—the latter now being constructed from funds subscribed by Miss Marjorie Ward and Miss Clara Cudahy, and both decorated with designs by Mrs. John A. Carpenter from children's stories—a little isolation hospital, the Thomas Beveridge Patten Contagious Hospital, the new Eliza Prentice Crane Manual Training School, a new laundry and power station, and the Lolita Armour Cottage, likewise new, where the children just brought from the city may be quarantined for three weeks to prevent the introduction of infection.

During 1916 the average per-capita cost per child was \$1.04 a day, after charging into cost all repairs to house and farm insurance, salaries to staff, wages to help, tiling of farm, refrigerator repairs, and all other miscellaneous expenses.

The home is supported entirely by voluntary contributions, and is free to the patients. In several states—Minnesota, Nebraska, New York, and Massachusetts, for instance—the work of caring for and educating the convalescent crippled children has been undertaken by the state. In Illinois this particular class of work is done by this private charity alone, and Dr. Frank Billings has characterized this undertaking as "unique in its scope and results."

THE PROPER DISTRIBUTION OF HOSPITAL EXPENSES*

Importance of the Subject—Income Accounts—Distribution of Expense Accounts to Various Departments—Classification of Storeroom Supplies Essential

BY FRANK E. CHAPMAN, Superintendent of Mount Sinai Hospital, Cleveland, O.

The past few years have seen a very pronounced development, in practically every line of endeavor, of the idea of securing a more efficient performance through study. It has truly been the regime of the efficiency engineer. In order to produce this more efficient result, careful analyses have been made of practically every operation entering into production, to determine what motions are essential and what motions can be reduced or speeded up, either to increase the total production or to make it a better one. The basis of all of this study has been an accurate method of recording operations and movements and the comparison of such records with those of previous periods. The results obtained in a great many instances are almost unbelievable. As a specific illustration: a motion study in a manufacturing plant, conducted over a period of three years, increased the total production of that plant 42 percent and the individual earning per capita 38 percent, while it decreased the cost of production 10 percent, with a decrease in working hours from 54 to 48 hours per week. These reports were made in normal times. It can be assumed that such a study would be more valuable under abnormal conditions. This is to illustrate specifically what can be done in the commercial field. Does it pay? If it can be done in other lines of endeavor, it is reasonable to suppose it can be done to a greater or less extent in hospital administration.

The time has come when boards of trustees and the public are demanding a more efficient and economical operation of institutions. It is no longer a question of assumption as to what a given service may cost; they are demanding to know whether or not they can afford to offer certain services at a given price, or whether the actual cost is greater than the rate charged. To know these things, a proper system of accounting and recording is absolutely essential, and after that system has been installed and is in operation, it is most essential that the administering officers intelligently study the results of that system and learn properly to interpret increases and decreases. It is not necessary that an elaborate set of books be opened; in fact, a too elaborate system is cumbersome and requires too much time to balance and check, and the results obtained are then secured so late for the period as to be of value only as a matter of statistics and not of study.

The bugbear of the average superintendent is the per capita cost. It is admitted that the cost per patient per day is not a fair comparison between different institu-

*Read before the American Hospital Association at its nineteenth annual session, Cleveland, O., September 12, 1917.

tions, by reason of the fact that this cost per patient per day does not take into consideration the difference in services rendered as between one institution and another, but there does not seem to be any fairer comparison than this. If the time ever comes when hospital practice is standardized, then a fairer comparison can be made, as it will naturally follow that, with the standardization of hospital practice, the standardization of hospital accounts will result. Each individual hospital offers its own problems, but there is no good reason why a fairly uniform classification of accounts cannot be determined upon.

Let us first consider the income accounts. The title of this paper does not permit of any elaborate discussion of these, but some reference should be made to them in a discussion of the distribution of hospital performance. These accounts should be watched just as carefully as are the expense accounts, and an attempt should be made to analyze increases and decreases of the former as is done with the latter. Income accounts can be very readily divided under ten headings, as follows:

1. Board of patients.
2. Board of nurses.
3. Operating room.
4. Anesthesia.
5. Laboratory.
6. X-ray.
7. Drugs.
8. Out-patient.
9. Emergency service.
10. Miscellaneous.

It requires but little additional effort to segregate income in this manner. To these can be added donation accounts and such other accounts as may be considered a part of the operating income.

Now, as to expense accounts, it is self-evident that the larger the institution and more extensive the performance, the greater the number of subdivisions of accounts in order that the various operations may be more carefully scrutinized. A basic classification should be determined upon and established, and then as many different subdivisions of the general classification made as are necessary to analyze results properly. Below is given a division of fifteen general classifications of operating expense:

1. Administration.
2. Professional care of patients.
3. Nursing.
4. Surgical and drugs.
5. Anesthesia.
6. Laboratory.
7. X-ray.
8. Dietary.
9. Commissary.
10. Housekeeping.
11. Laundry.
12. Heat, light, power.
13. Maintenance and repair.
14. Out-patient.
15. Miscellaneous.

A very definite policy should be established as to what are to constitute charges to expense accounts. It is to be assumed that if there is sufficient interest in the financial performance of the institution to warrant the establishment of a proper system of distribution, that interest will demand that the expense accounts show a complete record of the expenditures in every detail. Expense accounts should show the gross amount expended in any

given department. They should in no instance show the net expenditures as between the actual expenditure and receipt from endowment, from income, or from any other source. This is a point that should be definitely outlined in the accounting policy.

There are three different general methods of distributing hospital expense that seem to be in general use at this time.

1. The paying of all bills as they mature and charging the total amount to a general expense account.

2. The payment of all bills at maturity and charging direct into a classified expense account for the month in which the purchase is made.

3. The charging of all bills into stores account and the distribution of the expenses upon the basis of actual amount used during a given period.

Scheme 1 is of practically no value from the point of view of the superintendent. It is true it shows the total amount of money expended and is a basis for figuring the per capita cost, but it will not give the actual per capita cost for any given service for a given period.

Scheme 2 is hardly of greater value for the same reasons. To purchase hospital supplies economically, there are times when several months' supplies of different commodities must be bought, and it is not fair to charge into any given period's operation the total cost of supplies purchased, when, as a matter of fact, those supplies are not used, but are an asset to the institution and are held in store for future consumption.

Scheme 3 is, to my mind, the only equitable method of distributing hospital expense. This scheme necessitates classifications of the storeroom supplies into identically the same classifications as the financial accounts and the taking of inventory monthly. All commodities received during the month should be charged into the inventory accounts, and the difference between the inventory as of the first of one month, plus the receipts for that month, and the inventory as of the first of the following month, should represent the total expenditure for that particular classification for the month. The taking of this inventory is not the burdensome thing that one would suppose. By the proper distribution of commodities in the storeroom and the proper method of receipts and disbursements kept up daily, the actual financial inventory can be taken in eight hours in the average storeroom.

Of prime importance in a system of hospital disbursements is an absolute control of the distribution of supplies. Too much stress cannot be laid upon the importance of knowing definitely where every article goes to. This can be accomplished only by a proper system of requisitions, these requisitions to be properly checked and supervised by someone in authority. The promiscuous issuance of supplies without proper supervision results in more waste in hospital administration than any other one feature. The following is an outline of a system of distribution that has proved satisfactory with a very small amount of personal effort necessary to keep it in effect:

A definite weekly supply day is established for the entire institution, and all of the departments of the institution are instructed to gauge their requisitions for a week's supply only. Requisitions are assorted so that those for all surgical supplies, all housekeeping supplies, all dietary supplies are assembled. This is to facilitate charging in the storeroom. These requisitions are collected and brought to the superintendent's office the evening before the supply day. They are carefully scrutinized and approved.

These requisitions are then filled, the price of each

commodity affixed, and the total amount of the requisition carried on the bottom of the page. In the storeroom there is a specially ruled book with a sheet for every commodity in the storeroom, this being a loose-leaf book, each sheet being a perpetual inventory of the commodity in question. These sheets carry the purchase date, purchase order number, firm from which bought, remark column, quantity and price, column for amount on hand, column for the amount disbursed, and series of columns showing all of the important departments of the institution, such as each individual ward, main kitchen, diet kitchen, housekeeping, and laundry. To illustrate: Requisition No. 602, to Armour & Co., issued October 1, for 500 bars of laundry soap. In the "on hand" column this would show 500 bars of soap. On the 16th of the month Ward A received 4 bars, B 6 bars, housekeeping 24 bars, main kitchen 25 bars, or a total of 59. This total of 59 would be carried in the disbursed column, and subtracted from the amount on hand, leaving a balance on hand of 441, which would be your inventory at the end of this supply day. This system can be carried through for the entire month and the "on hand" column used as a basis for your inventory figure on the last day of the month, simply by multiplying bars on hand by the unit price of the bar, which is established on the line showing the purchase. Exception to the weekly supply day is made in the kitchen, as this department receives its supplies daily, but the same principle applies as in the other departments of the institution. In the kitchen there are a great many commodities that are not kept in the storeroom, but are charged direct. These supplies are received by the storeroom, however, and the record of their receipt and issuance is kept in the storeroom and not in the kitchen. This, of course, does not exclude issuance of special requisitions for emergency supplies, which can be obtained at any time.

In distributing expense as between the basic subdivisions, every effort should be made to disburse all items properly. Do not charge the total salary of an assistant superintendent to administrative expense when as a matter of fact a large proportion of his time is consumed in buying. Do not charge your total stationery account to administration. Medical forms, etc., are not truly an administrative expense. If you have an anesthesia account see to it that all drugs and supplies used in the giving of anesthetics are charged to this account. See that a full charge is made to the x-ray department for all drugs, electricity, etc., used. In other words, strive to make your classifications represent the actual cost of operating each department.

In the distribution of expense, from the superintendent's point of view the essential thing to know is the cost of each producing unit. The ward unit performance being the commodity dispensed by the hospital, it is the production cost of that unit that is desired, and any system of distribution must strive to show as nearly correctly as possible the actual cost of ward operation. Your administrative cost, your laundry cost, your cost of heat, light, and power are as much integral parts of the cost per patient on a given division as are the supplies used on that division. For purposes of record and account, such a distribution is not always feasible or desired, as the individual cost per unit is not of sufficient interest to a board of trustees to warrant such a classification. The board of trustees is primarily interested in knowing the total administrative cost, the total cost of handling the laundry, the total cost of drugs, etc., and not in knowing how much of this total each division consumes. This, however, is what the superintendent should primarily be

interested in, and for this reason a separate and distinct classification should be kept by each superintendent.

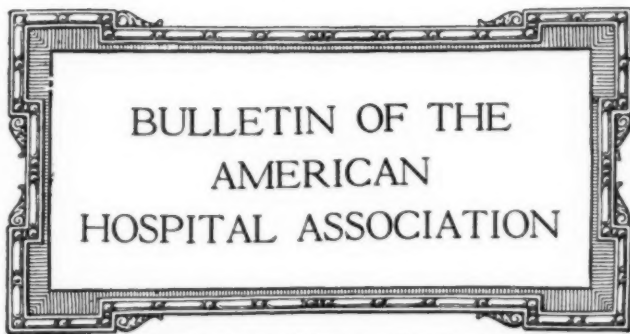
General expense accounts, such as administrative, laundry, etc., should be divided as between the producing units on a per capita basis. Labor expended should be divided on the actual basis of the expenditure for the division. This can be accomplished very easily and quickly by a classification of your payroll each month. Supplies used should be charged direct to the division to which they are issued. This can be very easily determined by a total of your requisitions. The cost of food should be prorated on each division. The cost of x-ray service, laboratory service, operating room service, and kindred services should be divided either on a per capita basis or on a percentage of the total expense proportionate with the amount of work done. After this distribution has been made and as one of the reasons for making it, the results should be brought to the attention of those responsible for the expenditure. It is rather interesting to note the energy expended by various head nurses in an effort to bring their expenditures for a given classification below the expenditures of a similar division to their own. Very marked showings can be made in this manner if handled correctly. It is also interesting to call the attention of various divisions to comparative expenditures, calling attention at the same time to the comparative patient-day performance of their divisions. This is another means of securing cooperation of the personnel of the institution. Take them into your confidence and show them what it costs to run an individual unit, and there is not a question but that a greater effort will be made to get an economical operation.

Any system of cost distribution that is installed requires a very careful handling to establish in the minds of all the importance of accurate segregation of expenses, and, after the results have been obtained, in order that they may be of economical value to the institution, they must be studied carefully from every angle in order to obtain any results. Due consideration must be given to each classification, and it is advocated that a detailed explanation of increases and decreases be given for each account. Consideration must be taken of the number of patient days for the period as compared with previous periods. Increases in cost of foodstuffs, increases or decreases in cost of surgical supplies; in fact, every item entering into various performances should be considered. If these explanations are made, filed, and studied intelligently, during succeeding periods, it cannot help but react to produce a better administered institution from every point of view.

An Automatic Writing Appliance for Blind Soldiers

A patented automatic writing appliance for the blinded Canadian soldiers has been made available to the Military Hospitals Commission through the gift of an expatriated Canadian lady now living at Pasadena, Cal. The device, which was her own invention, and was patented in 1897, has been endorsed by the principal institutions for the blind in the United States, and commends itself instantly to any observer as an exceedingly simple yet practical help to the blind man using a pencil or pen. The object of the device is to enable the man to write in a straight line across the page.

Miss Edith Fergusson Black, the inventor, forwarded to the commission a sample of the article and the fifteen jigs, dies, and tools necessary to manufacture others.—*Hospital World*, Toronto, Canada.



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728 Seventeenth Street, N. W., Washington, D. C.
WILLIAM H. WALSH, M. D., Secretary.

A Communication From the War Service Committee

The following letter, under date of December 10, has been received from the war service committee of the American Hospital Association, Dr. S. S. Goldwater, chairman:

"To the Members of the American Hospital Association:

"In a recent address, Secretary Houston declared that in order to win the war it was necessary for the United States to find a formula for maximum national efficiency. In Secretary Houston's opinion, such a formula was to be found in the perfect coordination of governmental and private resources. It is in this sense that the war service committee of the American Hospital Association is endeavoring to carry out its mandate, namely, 'to inform itself of all military facts and requirements in which hospitals may be concerned, to be in readiness to consult with military authorities in relation thereto, and to assist wherever hospital service may be of value to the country.'

"At the first meeting of the committee, which was held in New York city on Wednesday, November 21, the following resolution was adopted:

"INTERN SERVICE

"The committee maintains that the efficiency of hospitals and the adequate preparation of recent graduates in medicine for clinical practice, not only among the civilian population, but in the army, depends in large part upon the maintenance by civilian hospitals of an adequate system of clinical training. In the opinion of the committee, it is inadvisable for hospitals having a graduate intern service of eighteen, twenty-one, or twenty-four months' duration to abandon such service, in order to substitute an ungraded or improperly graded service of only twelve months' duration.'

"The work of the war service committee has been facilitated by the designation of its chairman as chairman of the hospital committee of the General Medical Board of the Council of National Defense.

"The most pressing problem which faces the war service committee is that of maintaining in the hospitals of the country a sufficient staff of interns—sufficient both in number and in quality of training. The new Selective Service Regulations provide for the voluntary enlistment of interns in the Enlisted Medical Reserve Corps, subject to such regulations as the Surgeon-General may prescribe. As the members of the association are aware, the regulations promulgated by the Surgeon-General provide that interns so enlisted and such others as hold commissions in the Medical Officers' Reserve Corps may continue in the service of hospitals for the purpose of completing internships which terminate not later than July 31 of the year following graduation, and no longer. The strict enforcement of this provision would compel the hospitals to forego the services of all advanced interns and residents of draft age.

"It is hardly necessary to point out the disastrous consequence of thus destroying at a single blow the whole

system of graded house-staff organization. Protest, however, is unjustified and will be without result if the services of these men are required by the army. The only hope of relief is in seeing that the army's needs are so fully supplied from other sources that hospital interns and residents, whether appointed for twelve months or longer, may be permitted to complete their hospital contracts and incidentally to obtain a professional education which will enhance their value as army officers.

"The war service committee of the American Hospital Association therefore appeals to the hospitals of the country to bestir themselves. The required number of medical officers for the army is not yet in sight. The best possible material for army purposes consists of hospital-trained men, either of draft age or of the years just beyond. These men have been prepared by the hospitals. In large numbers they have flocked to the army; but more, many more such men are needed. Once in the army, men so trained will find advancement rapid. By coming forward now, these men will confer a service on their country, on the army, and on the hospitals with which they are affiliated. And they will come forward cheerfully if it is first demonstrated to them that they are not asked to take the place of slackers. Therefore, the first thing the hospitals must do is to have every intern now in service apply for a medical officer's commission. If the interns will put themselves in General Gorgas' hands, they and their hospitals will be treated fairly.

"The war service committee urges every hospital in the country to organize a local war service committee, for the guidance of which the following program is presented:

"First. See that every intern applies immediately for a reserve officer's commission.

"Second. Make a complete list of the graduates of the hospital from 1900 to 1917, inclusive.

"Third. Ascertain how many of these men have secured or have applied for commissions in the Medical Officers' Reserve Corps.

"Fourth. Appeal to the remainder to make application without delay.

"Fifth. Keep a record of the results, and make a report from time to time to the war service committee of the American Hospital Association, 728 Seventeenth Street, N. W., Washington, D. C.

"The importance of these measures is indicated in a letter from the Surgeon-General's office, dated November 30, which reads in part as follows:

"These regulations [i. e., those referring to deferred military duty of interns under the Selective Service Law] do not mean that every intern must necessarily be called to active duty just as soon as he finishes one year of hospital service. The number called will depend upon the number of vacancies to be filled or planned for."

"The immediate need is for 5,000 hospital-trained men under 40 years of age. The American Hospital Association must secure these men. ORGANIZE YOUR WAR SERVICE COMMITTEE THIS WEEK, and send the name of its chairman to the undersigned.

"WAR SERVICE COMMITTEE, AMERICAN HOSPITAL ASSOCIATION.

"S. S. Goldwater, M. D., Chairman.

"Richard P. Borden, Secretary.

"Daniel D. Test.

"A. R. Warner, M. D.

"W. A. White, M. D."

Meeting of War Service Committee

A meeting of the war service committee of the American Hospital Association was held in New York City on Wednesday, November 21. The war service committee is a national committee which has been instructed by the

American Hospital Association "to inform itself of all military facts and requirements in which hospitals may be concerned, to be in readiness to consult with military authorities in relation thereto, and to assist wherever hospital service may be of value to the country." The committee has established headquarters in Washington, which will be in charge of the secretary, Mr. Richard P. Borden, of Fall River, Mass.

The following statement has been issued by Dr. S. S. Goldwater, acting as chairman:

"From such information as the members of the war service committee have thus far been able to gather, the committee infers that it is the policy of the army to ignore existing hospital facilities in its preparation for the care of invalided men. It would be wiser, in the opinion of the committee, to formulate a program based upon the principle that existing medical institutions, including hospitals and sanatoriums, should be utilized wherever and whenever they are capable of rendering the required service. The unnecessary duplication of hospital plant and organization appears to the committee to be deplorable at a time when the nation should husband its resources in order to increase its military and national efficiency.

"The ideas of the war service committee on this subject are practically the same as those of the British Ministry of Pensions, which is responsible for the medical treatment of disabled men who have been discharged from the British Army. In a statement made to the British Hospitals Association on October 19, 1917, Mr. Horne, representing the pensions ministry, said that the ministry 'had no intention of setting up in various parts of the country institutions which would compete with established voluntary hospitals. They had in certain instances provided institutions of which there was a dearth, such as those for neurasthenia, tuberculosis, and epilepsy; generally, the accommodation required was provided by enlarging existing institutions.'

"The committee has been unable to learn of any government plan for the care of discharged soldiers who may still require ambulant medical treatment. In this connection, it might be advantageous to consult recent orders of the British Army Council in relation to the handling of two categories of patients: first, soldiers who at the time of their discharge require further treatment; second, soldiers who at some time after their discharge are found to require further treatment. The instructions in question apply 'to those suitable for treatment as out-patients in hospitals.'

"In order to facilitate cooperation between the army and civilian hospitals, the committee suggests the organization of an auxiliary medical corps for home service. This corps should be composed of physicians and surgeons who are ineligible for active military duty, and should be made up, in the first instance, of men holding hospital appointments.

"The committee maintains that the efficiency of hospitals and the adequate preparation of recent graduates in medicine for clinical practice, not only among the civilian population, but in the army, depends in large part upon the maintenance by civilian hospitals of an adequate system of clinical training. In the opinion of the committee, it is inadvisable for hospitals having a graduated intern service of eighteen, twenty-one, or twenty-four months' duration to abandon such service, in order to substitute an ungraded or improperly graded service of only twelve months' duration."

The chairman has been authorized to present the views of the American Hospital Association to the military authorities through the general medical board of the Council of National Defense, or otherwise.

Additional Comments on Committees

The following committees, in addition to those named and commented on in November, have been or are to be appointed:

COMMITTEE ON DEVELOPMENT OF THE ASSOCIATION

A committee of similar name and function has been

actively engaged for years, and the present development of the association may be said to represent its labors. There remains much to be accomplished, and this committee will be expected to render a report upon its studies and conclusions. We desire to enlarge our membership to 10,000 active members. How is the best way to do it? We desire to increase our utility to the membership. In what way may the association best benefit its members? We should have more trustees in the association! How shall we get them? These questions scratch the surface and will open up vistas of endless problems to the distinguished members of the committees selected by the president to mold our future progress.

The report of this committee will be read before a general session of the association and then referred to the business meeting for serious consideration and such action as may be deemed advisable.

COMMITTEE TO COOPERATE WITH THE MILITARY SERVICE

This committee has been appointed by the board of trustees, and, in addition to aiding and cooperating with the committee on preparedness, this new committee will form a connecting link between the association and the Council of National Defense and the office of the Surgeon-Generals of the Army, the Navy, and the U. S. Public Health Service.

The chairman of this committee has been appointed by the trustees as the representative of the American Hospital Association upon the medical section, Council of National Defense, and by virtue of this office he will be enabled to confer with these officials upon all matters affecting hospitals, but will express before that body the point of view of the civil hospitals of the country.

This committee is authorized to take whatever steps it may deem expedient for the accomplishment of its objects, and may call upon the treasury for such funds as may be required, not to exceed, however, the appropriation for the purpose allotted by the trustees.

Nurses for the Insane in Sweden and Denmark

The following is extracted from an article by Dr. H. Arnesen in the *Medicinsk Revue* of Bergen, Norway:

In Sweden there is a good supply of nurses for the insane, though the salaries are not very large. All hospitals have erected dwelling houses for the married nurses on the hospital grounds. In some cases each family has its own house; in other hospitals as many as four families live in one building. The Swedish nurses for the insane are organized, forming an association covering the whole state. Each hospital has a hall where the nurses meet and spend their leisure time. The nurses' association also publishes a monthly journal called "Humanitet." In Denmark the condition of the nurses at the four old state hospitals was regulated by law in 1911. It was required that a certain percentage of the nurses shall be specially trained for this service. The newly established hospital at Nykøbing has erected a number of neat dwelling houses for married nurses; the older hospitals have so far not provided dwellings for the nurses.

A youngster, after having had her temperature taken, inquired if she was very sick. The nurse said: "No, dear; your temperature is only 100." The child clapped her hands together and exclaimed: "Now, I can have the quarter papa promised he would give me if I could get 100 in anything."—The Bambino, Children's Hospital, Columbus, O.

THE USE OF A TENT IN TREATING ANTERIOR POLIOMYELITIS

Further Observation on the Methods Used at Fordham Hospital—Benefits of Fresh Air and Exercise Added to Treatment

BY SAMUEL BOORSTEIN, M. D., Chief of Orthopedic Department
Fordham Hospital Out-Patient Department, New York.

There appeared in the May number of *THE MODERN HOSPITAL* a description of a tent which we have been using at Fordham Hospital for treating the children afflicted

homes. They have full freedom to play and walk on the grass instead of being kept in a crowded room. The mothers are training them to walk either on the walking board or on the grass. The tent is open on all sides, and an electric fan helps cool the warm atmosphere within. The



Fig. 1. One end of the tent, showing the children receiving sun treatment (August, 1917).

with anterior poliomyelitis. One paragraph in that article read as follows:

"The advantage of such a tent in summer is obvious. The children may play on the grass until time for their treatments. These cripples are usually confined to their rooms and do not get enough fresh air, either because their mothers are afraid to have anyone know of the children's deformities or because they are too busy to accompany the children. Thus, when the children are brought to the



Fig. 3. Inside of tent during administration of treatments (August, 1917).

children are inside the tent only during the treatment. Before the treatment they are outside, naked and exposed to the sun. (Figs. 1 and 2.)

The effect of the combination of the sun treatment, the outdoor exercises, and the orthopedic treatment was excellent, and we feel certain that such inexpensive arrangement offers the best facilities for treating such young children, especially when they are afflicted with a disease



Fig. 2. Group of children who are patients in the hospital (August, 1917).

clinic, they enjoy the fresh air for two or three hours. In summer we intend to have these children dressed in tights only and have them sit on the grass or on a sheet of tarpaulin and have their limbs warmed up by the sun; they will afterward be called for treatment. The tent will be uncovered on all sides. We cannot tell as yet how it will work, but it sounds plausible."

Now that the summer has passed it may interest the readers to know the exact results of the season's work. The pictures appended here are so clear that no explanations are necessary. One can easily see that the children are lying and roaming on the grass and getting plenty of fresh air, which some of them probably miss at their

which deprives them of partaking in the ordinary outdoor exercises.

During the coming winter we intend to keep the children outside after the treatments. We are going to erect a playground near the tent so that while exercising in the fresh air they may not run the risk of catching cold, and at the same time they have some enjoyment.

I wish to express my sincere thanks to Miss H. Malmgren, superintendent of the hospital, for her devoted attention to the outdoor treatment of these children and for arranging all facilities for the use of the grass on the lawn.



Conducted by MISS ANNIE W. GOODRICH,
Teachers' College, Columbia University, New York City.

Please address items of news and inquiries regarding Department of Nursing to the editor of this department, Teachers' College, Columbia University, New York City.

The Eight-Hour Day Applied to Hospitals

BY MARY E. LEWIS, Superintendent German Hospital, Chicago.

Believing, from the trend of the times, that it was only a question of a few years at the most when the eight-hour day for women would become a law, and, wishing to try out and perfect a system before it became a necessity, a year ago this last July we began to operate our entire hospital on an eight-hour system. Prior to this we had gone over the plan from every angle, and had solved the difficulties one by one as they presented themselves, as nearly as it was possible to do without an actual trial. We found, on putting the system to work, that only a few things needed to be adjusted, and these were easily disposed of. What seemed to be the greatest difficulty was the arranging of classes so that all could attend; but even this proved a simple matter when thought out thoroughly.

I had found out, when I began the study of the eight-hour system, that, if I divided the day into three shifts, relieving all of the nurses on the floor at once, it would take many more nurses to do the work than it had taken by the old plan. I was also afraid that, in taking all of the nurses from the floors at once, something of importance would be overlooked. This was apt to be especially true in the middle of the afternoon, when the treatments and medicines for the day had not all been given, this being also the time of day when most of the new patients arrive. After some time I worked out the following plan of four groups of nurses working eight hours each, so arranged that the shifts lapped:

First shift, coming on duty after breakfast at 7:15, with half an hour off for dinner, 12 to 12:30, going off duty at 3:45 p. m.

Second shift, coming on duty at 8:30 a. m., going to dinner at 12:30, then off duty until 3:30 p. m., when they again report and work until 7:30 p. m., or until 8 if necessary, which is rarely the case.

Third shift, coming on duty at 3 p. m., going to supper at 5:30, and going off duty at 11:30 p. m.

Fourth shift, coming on duty at 11:30 p. m., after eating a hot dinner served to them at 11 p. m., getting off at 7:30 a. m.

This arrangement brings the most of the nurses on duty at the ends of the day, at the time when the baths and treatments are given and the trays are served.

The night nurses, who have always been a source of anxiety to superintendents of hospitals, never wear out or break down, for the reason that the hard part of the night is gone and the patients nearly all asleep when they come on duty. They will have an occasional bell and the very

sick patients and the records, but that is all until the early morning rush.

Every one who has ever been a nurse can remember the way the bells would begin to ring, almost before you had received your night report, and from that time until 11:30 and sometimes later you were running as hard as you could, doing two or three things at once. The last drink, the medicine, some extra covers, the window raised to just the right height, the screens and pillows adjusted, a thousand and one things, until at last the lights dimmed, the floor quiet, out of breath and tired you went hastily to snatch a bite to eat and hurry back to your record-making, watching the minutes so that you would be ready for the last grand rush of basins, bedpans, specimens, and treatments in the early morning.

Under this eight-hour system the night nurse comes on after having had a good warm dinner with leisure to eat it, to find her house quiet. She has time to make the records for the next day, and to do them well, before the early morning rush. We have had no breaking down of night nurses in the last year and a quarter.

Aside from the relief of overwork for the night nurse, I will briefly enumerate the advantages which we have found in the eight-hour system as we operate it:

1. It takes very few more nurses than it does to run with the twelve-hour day, two hours off duty, with half days and extra hours on Sunday. At eight hours a day each nurse works fifty-six hours a week. The old way she worked seventy hours with one-half day and two extra hours off on Sunday, seven hours deducted from seventy leaving sixty-three, or seven more hours a week or one more hour a day than under our system. This is partly made up by the nurses not going off and coming back on duty, but working eight consecutive hours, which saves time.

2. The head nurses do not waste time solving that ever-recurring problem of hours and half days off.

3. If there is any reason why the nurse needs to be absent from the hospital at a given time, as for a dentist engagement, or if her family are to be in the city over night, her shift can be changed with someone's else on her floor, so that she can have the morning or evening as the case may be, and the floor work will not be disturbed in the least.

4. The hospital still has left, of each nurse's time, two hours that rightfully belong to it under the present law, that can be used in an extra emergency.

5. Last but not least by any means is the advantage to be gained by the flexibility of the system. If any given day it is necessary to have more nurses at some other time than the usual schedule shows, they can be moved along to come on earlier or later, as the case may be, either singly or in groups, to cover the time they are needed, without in any way disturbing the routine of the hospital.

The class work can be arranged by having advanced and beginning classes, two of each at different times of the day, so that all can attend. Where there are only one or two who cannot attend at a given hour, they can be relieved from another shift for the class hour without any trouble.

In conclusion, I wish to state that we would not go back to the old way for any reason that has ever been presented to us. The nurses are satisfied; they have sixteen hours a day to sleep, eat, rest, study, and exercise. We have less sickness. The nurses make a better average in their class work. Fewer leave training, and none break down.

The Teaching Problem in the Small School

BY KATHARINE INK, R. N., New York.

An article by Miss Nutting in the *Teachers College Record* for March, 1917, sets forth, in a clear and convincing fashion, the problems and the opportunities confronting the nursing world at the present day. It is encouraging that the teaching of nurses has reached the point of being considered a problem, since the work they are called upon to do is becoming more complicated and more varied and specialized day by day. Hospital trustees are realizing that the classroom and the laboratory are fundamental parts of the equipment, and that an overworked superintendent of nurses, whose chief duty is administration, cannot be expected to prepare lessons and conduct classes as a side issue—and a side issue it has, unfortunately, often been.

The war has increased the difficulty, for many of the most efficient women in executive and teaching positions have gone to the front. They are needed there, to be sure, but the problem of carrying on the school is made more acute, and a solution for some of the difficulties must be found, if pupils are to be prepared to fill these vacancies later and to take the place waiting for the well-trained woman.

Some of us are wondering if the visiting instructor may not find her place here, as the traveling sophist did in the old Greek days during a transition period. The interest in the teaching problem was certainly demonstrated at the convention of the three national nursing organizations in Philadelphia, when a round table was held to discuss various phases of the work of the visiting instructor. We supposed the meeting would be rather a small one; but, instead, the people poured into the junior cotillion room, until it was filled to overflowing, and many of the audience stood during the entire hour—certainly a test of this interest.

When I went to Teachers College three years ago to prepare for this work, it seemed uncertain how things would work out, and whether there would be sufficient demand for a visiting instructor to bring in bread and butter. However, the bread has come and also some butter and, aside from that, it has proved a most interesting and satisfying work. It brings one in contact with a variety of schools and many types of students. Some of them are college women, with the advantage which that training gives, and some of them have had little or no background for scientific work. Yet the interest and enthusiasm are unfailing, in spite of long hours and great fatigue, and it seems to me that such a wonderful and precious thing should be cultivated and not lost to the world. This lack of uniformity in preliminary education naturally complicates the problem of selection of material to be given.

The work with the graduate students has been most interesting and gratifying, for they were, in a way, a selected group, coming from schools all over the country. Many of them came particularly for the theory, which they realized, when it was too late, had not been given them by their own schools. Some of them found that, after giving two or three years of hard work, they were in no way prepared to meet the complicated problems in the modern nursing world, and had to take some special course to bring them up to the standard and make it possible to take the state board examinations.

An instructor should not be discouraged if the conditions seem hopeless, for they never are; nor should one refuse to attempt to teach a certain subject because the equipment is a minus quantity. Dr. Osler says that one of his most satisfactory classes in histology in the early

days was conducted in the cloak room with the microscope on the window-ledge.

When I started my teaching a year ago, I was asked by one superintendent if I would give a course in chemistry. It had never been given in that school, and she felt, quite rightly, that it was of fundamental importance, if the students were to grasp the other sciences. Then we looked about for a place to give the course. There was no classroom, but there was a board room, which was used for lectures. You can always depend on there being a board room, where the powers that be meet once a month and sit about a large mahogany table and discuss the affairs of the nation. The rug and the aforesaid mahogany table precluded the possibility of doing chemistry there, but adjoining the board room was a lavatory, about 6 feet by 4, with stationary washstand, cupboard, a gas jet, where the Bunsen burner could be attached, and one window, and there the demonstrations took place quite successfully, after the lecture was given in the board room. One young miss handed in her experiments marked "Lavatory Notes," which statement I suppose I had no right to correct. This year the class is too large to use the lavatory, so the demonstration table has been moved across the threshold into the sacred precinct, a discreet distance from the rug, and the rubber tubing has been pieced out so it will reach—and there the demonstrations go on. We consider it only an indication of the way things will grow, until the new hospital, with a large, well-equipped modern laboratory gladdens our hearts.

It is difficult, in many places, to get the equipment necessary to illustrate the work, but quite satisfactory charts may be made and carried about in a leather case, made like a music-roll, with a handle at the top like a golf bag. Tag-board or architects' paper may be used, and India ink or colored pencils make the drawings clearer. It is possible to make enlarged copies of various illustrations, particularly in physiology, by using the pantograph, a simple little device costing 25 cents. All the directions for enlarging the drawing any number of times are given with it.

I wish to speak, too, about the help which has been so freely given by the New York Public Library. In the Columbus branch, near one of the hospitals where I taught last year, they gave us several shelves at the back of the reading room, where reference books were collected for us, and a special table was provided. Students could go there to look up material for papers, which they wrote on various topics in hygiene and municipal sanitation, history of nursing, and physiology.

Let us hope that more nurses who are interested in teaching may prepare themselves for the work. There is a long list of hospitals needing full-time instructors, and not enough women to send to them. And the call is also coming from the small hospitals, wanting a part-time instructor for certain subjects. These hospital schools cannot expect to get an instructor at a moment's notice, if they do not encourage some of their students to go to Teachers College or some other place and get the preparation. In some places scholarships have been established by the hospital, or the alumnae association has made it possible for promising graduates to take the course.

The nurses in the Town and Country Nursing Service of the Red Cross often cover their territory on horseback or muleback, as the case may be, or, if the roads permit, they use a Ford car. One of the nurses who has been doing the follow-up work with the poliomyelitis cases, in connection with the New York State Board of Health, has one-eighth of the area of the state up in the Adirondack

region, and goes from clinic to clinic in her car. Why might not the teaching be done in the same way? If two or three small schools arranged their curriculums so that the work paralleled, thus reducing the amount of preparation necessary, it would be possible to have the instructor spend two days a week in each school, and give the theoretical subjects. This would also reduce the expense for each school. The time spent out of doors going from place to place is not a waste of time, but is better than living in an institution and being too busy to go out for regular exercise, even though a resident instructor may be more successful financially.

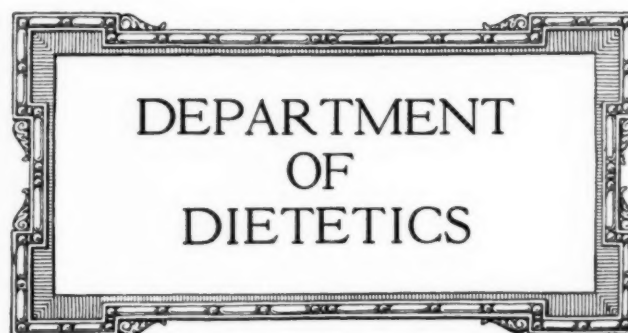
That the interest in nursing is very great, and that better-prepared women are being attracted to the profession, is amply attested by the fact that there were about 800 applications in three months this summer to a well-known school which has recently established closer relationship with a great university.

The interest is great; the necessity for well-educated, well-trained women has never been so pressing. Let us, then, make every effort to improve and build up the schools by giving these eager young students the well-rounded training which they will need to carry on the work which will confront them during this most interesting period in the world's history.

Catholic Hospital Association Cooperating in the Standardization of Hospitals

The executive board of the Catholic Hospital Association, which is cooperating with the American Medical Association, and the American Hospital Association in the movement for the standardization of hospitals, has issued an announcement on the subject to the Catholic hospitals of the United States and Canada. After discussing the letter and questionnaire to be sent to each hospital and the rating to be awarded after study of the hospital, the announcement continues:

"The Catholic Hospital Association was organized on the sincere belief that, in the interests of the general good, there was a need for it. There are at least 522 Catholic hospitals in the United States and 81 in Canada. These institutions assume the responsibility of caring for thousands upon thousands of citizens. These patients have a right to the best service within reason, but such service is only possible where the standard of the hospital is consistently high. To aid in attaining that standard has been the aim of this association. Already two conventions have been held, with good results and increasing success. The third convention was to have taken place in Chicago during the past summer. It was omitted because of national conditions. The subject of that convention was to have been the standardization of hospitals. . . . Realizing the very great number of patients treated by Catholic hospitals annually, and recognizing the importance of the work of this association, the leaders of the national movement have appointed our president, the Rev. C. B. Mouligner, S. J., Regent of Marquette Medical School, to the following positions: (1) National visitor of hospitals, (2) member of the national committee for hospital standardization, which meets in Washington, D. C., on the 8th and 9th of this month. At this meeting the leading medical minds of the United States will be assembled to discuss the circular letter, questionnaire, and other matters regarding the standardization of hospitals. It is confidently hoped that every Catholic hospital will cooperate promptly and thoroughly in this national movement, viewing its cooperation not only as a duty to its patients, but also as an aid to the general progress of medical work."



Conducted by MISS LULU GRAVES,

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The Standardization of the Work and Training of the Dietitian

BY RENA S. ECKMAN, Former Dietitian of the Massachusetts General Hospital, Boston, Mass., now of Teachers College, New York City.

While the work of standardization of hospitals goes on, and all progressive institutions are stimulated to renewed efforts toward greater efficiency, it behooves certain other organizations and groups of individuals to investigate their own status, methods, and working conditions and take vantage of a broader view point.

Among these may be mentioned hospital authorities who are employing dietitians, training schools which every year are sending young dietitians into the hospital field. dietitians who are already in active service, and dietitians who are seeking employment. All of these must add individual and collective effort toward the standardization problem, not only concerning the training of the dietitian for the work required of her in a hospital of a certain type, but also to a reasonable adjustment of her duties, in order that she may have time for the study and investigation necessary to the development of her own department.

Within my memory an association of educators of the youth of this country, devoted an entire half-day session of that body to a debate in which strong dissenting voices emphatically declared that special training for teachers was of no advantage whatever, and that normal schools turned out inefficient and superficial workers who obtained no better results in teaching, and, in general, were poorer disciplinarians than teachers who had spent no time in pedagogical training.

Nevertheless, training schools for teachers have multiplied and normal schools still teach teachers to teach. They give to them academic and professional instruction, provide for them practice classes, supervise their methods of handling pupils and criticize their results. Educational methods of today are not to be compared with those of the "lickin' and larnin'" era, and although the perfect teacher has not been evolved, the results thus far have proved so beneficial that nowadays a would-be teacher must present satisfactory credentials showing special training and fitness before she can take her place among educators.

Many years ago a certain well-known hospital found women knocking at its doors with the request and plea that they be permitted to aid in the care of the sick. But grave doubts were entertained as to the use that could be made of hospital women nurses. It was feared that they would not "know their place," that the doctor's orders and directions would not be respected, and that many dire results would follow if women were permitted to give their assistance as nurses. But finally the concession was made

that women nurses might be employed in that isolated department set aside for "foul diseases," and there they proved their usefulness not only to the patients, but also to the physicians, the surgeons, and the institution. Since that time obstructions to their progress have gradually been removed, often hewn away as by chisel against rock; but no one in this day doubts the usefulness of a trained nurse or that her work is indispensable to the hospital and to humanity.

And now the dietitian has entered the hospital, and as there is nothing radically new under the sun, she must run the gauntlet of criticism and find her place, not always by paths of peace.

Some physicians of high rank have stated that they want no brains in the kitchen. Others have said that the dietitian has already proved herself incapable of managing a department. The old-time practical housekeeper or stewardess sees in the dietitian only an individual who may usurp some of her privileges and detract from her glorious reign. It often happens that even those who have already obtained a place in the sun by long and laborious striving feel it incumbent upon themselves to make the next aspirant work just as hard as they did to arrive, and, if no natural difficulties occur that seem large enough, do not hesitate to create some for the spectacular effect produced and the light and shade which are thus added to the symphony of hospital life.

But the dietitian has already become a necessity to the hospital. By no means is her training perfect, just as the perfect teacher or the perfect nurse has never yet been evolved.

It is to the dietitians themselves, however, that the great call comes to turn their observation inward and note what their training has been, what the situation now demands, and how they are to measure up to the present-day requirements of scientific feeding.

Dietitians do not need to usurp the duties of anyone else and cause a dangerous division of responsibilities. The breadth of expansion in their own department is such that assistance should gravitate to the dietary department rather than that the dietitian should go over to the nursing or housekeeping department and take away responsibility from them.

It cannot as yet be said that the profession, occupation, calling, or business of being a dietitian has any specific meaning to all who use the term in nomenclature of an individual who has some dealings with the dietary department of a hospital.

Almost every state in the union has in its universities and in many minor educational institutions well-organized departments of household science or practical arts. The curriculum arranges courses calculated to give instruction in cooking of various kinds and varieties; courses calculated to train teachers to teach cooking; courses in chemistry of food, biological chemistry, diet in health and disease; and, last, but not least, general and special problems of administration are considered and each subject is treated in the most concrete and practical way possible.

But whether they have spent one year or many years in preparing themselves academically and professionally along these lines, women have entered hospitals and are called dietitians. Some schools have definitely tried to divert their graduates from hospital work in order to spare them the experience of excessively long hours and shoals of difficulties too numerous to mention. Other schools consider one year ample time in which to train a hospital dietitian, and as a proof point with pride to the fact that the nurses whom these dietitians have trained

never fail to pass the examination in dietetics required for state registration.

And still women with meager training go on entering hospitals as trained workers and the name of "dietitian" loses ever and anon some of its magical sound—for wherefore? Need we state why?

The hospital dietitian, whatever her training may have been, has in a sense had her own place in the hospital to prepare—but mark the conditions that have aided or handicapped her in making the place a desirable one. She could fit into a certain niche, teach a few lessons in invalid cookery, do work in supervision of housekeeping, and in no case have we heard of her having undue leisure time. But the problem of feeding patients with any bearing upon their metabolic processes, or the knowledge wherein the daily work of the diet kitchen contributed to the relief and convalescence of a large percentage of the medical cases was not hers to aspire to or question. Her place was in the back of the institution, her domain the kitchen, her office a place in a drafty hall or perchance in a noisy corner of the kitchen, with railways under her window and the clatter of machinery near by. For does not that go with the job, and should not a dietitian's brains adjust themselves to all the operative conditions of the department even as all other heads of departments do? But *do they?*

Whatever the class room equipment and whatever the time allowed for instruction in invalid cookery and dietetics, the fact remains that nurses already have so many different phases of work to master that foods and cookery seem to them one of the least important. And these nurses, with the limited time allotted to them by the hospital routine in which to study the theory and practice of dietetics, are held responsible for the care and feeding of all cases within the hospital walls. Hence the necessity for feeding by rule and the evolution of "type diets." Whether or not the individual patient enjoys the food or its form of presentation does not matter, and he may take his food or not, as he chooses. If he is so ill that he is indifferent, his stay in the hospital is either cut short by a speedy decline or else is very much lengthened by a tardy convalescence.

At this point there is great need for cooperation between the dietitian and the nursing department as well as between the dietitian and physician. Even when graduate nurses are employed, there is still great good to be gained by conference.

In these times there is so much to be learned about food and feeding that, as has been stated by others, it is almost impossible to keep up with the subject-matter found each month in the scientific journals. What can be done?

Dietitians already in the field have acquired the routine of their work. How are they to do even a little reading each month? We must assume that any hospital in good standing is ready to improve the dietary department. Have dietitians access to a library containing medical and biochemical magazines and the current literature on nutrition? Have they time to read, or are they held so closely to detail that when the requisite number of hours of work is completed no energy remains to stimulate original thought or research?

I once knew a dietitian of a hospital of two hundred beds whose hours of service ranged from half-past five in the morning to seven o'clock in the evening, with only two hours' relief allowed in the afternoon. Subtracting all meal times and Sunday and recreation time, this woman worked, on an average, ten hours per day. When she wished occasionally to leave one-half hour earlier on her

afternoon in order to catch a certain train to her home, her superior officer always looked astounded. Yet she had competent assistants and her department always ran smoothly in her absence.

And one day the hospital superintendent was amazed to learn that, notwithstanding the salary and "privileges" that this woman had, she did not wish to remain longer as a hospital dietitian.

Do dietitians as a rule settle down and accept all the adverse conditions of their particular situations, content to receive a certain remuneration each month, or do they scan the horizon for the approach of opportunity to enlarge their sphere of usefulness, in whatever guise that opportunity may come? It is not improbable that many physicians do not realize how much assistance a dietitian can be to them.

Who is primarily the most interested in the all-round development and efficiency of a department—the specialist in that particular field, or those who are served directly or indirectly from it? Is it not a psychological fact that only an interested person will carry responsibility efficiently? And if a chief is to be held responsible for duties and conditions she must be allowed to be responsible.

The true dietitian, when properly trained and experienced, is a specialist. Her knowledge of her own domain must tower over that of her allied contemporaries. It is the privilege of those served to criticize, ask, or even demand of the dietitian. But there is a line which in high-grade management cannot in decency be crossed.

Cooperation of the dietary department with other departments can be established and carried on without undue friction. When this state of affairs has been reached the efficiency of the entire institution is increased.

Schools that train hospital dietitians must know what instruction is needed to prepare them to fill suitably positions in hospitals of the different classes, noting that the surgical hospital, the small general hospital, the large city hospital, the children's hospital, or the heavily endowed semiprivate hospital may or may not need a highly trained specialized dietitian.

Training schools should follow their graduates into the field, and, if they are found successful, should note the conditions which have made for success, whether wise administration and fair working conditions have paved the way or whether the dietitian has had to move mountains to reach her place of attainment. Training schools (through their appointment committees) should also investigate failures and learn if the dietitian herself was at fault and why, or if the working conditions were impossible to cope with.

Hospital authorities who employ dietitians should know where to apply for a woman trained as the situation to be filled demands. This woman *can* be found if (and the "if" is not a small one) the hospital will not only pay a salary large enough to attract an efficient woman, but will also give her freedom to work out her problems and a fair and reasonable cooperation and backing when difficult situations are to be met.

Edible Fats

BY DR. J. A. WESENER and GEORGE L. TELLER, of the Columbus Laboratories, Chicago.

Nature furnishes food fats from two sources—animal and vegetable. The herbivorous animals receive fat from the vegetable kingdom, in the grasses and grain, whereas the carnivora exist on fat largely from animal sources, and this also applies to the omnivora, in which man is included. The present civilized man of esthetic taste likes

food which appeals to his palate; that is, the taste of discrimination between desirable and undesirable flavors in foods is one he has acquired by years of cultivation. As a matter of fact, neutral oils in fat, such as obtained from vegetable products, do not appeal to the taste, for the reason that they are all flavorless, and if they do possess a pronounced flavor, as is often found in the unpurified or imperfectly purified product, this is often objectionable. Absolutely pure fats obtained from both the animal and vegetable sources are all bland, neutral, and tasteless, and not one of these products in such a pure state appeals to the esthetic taste of man. The flavors or characteristic taste possessed by some of the well-recognized edible fats, such as butter, oleomargarine, goose fat, tried-out beef and mutton suet, are all due to changes brought about in their production and rendering. Butter and oleomargarine, which head the list as fats possessing the most agreeable taste, are both manufactured products. The delicate chemical changes brought about in their production are the factors which produce the desired action on the gustatory nerves. These flavors are especially intensified when these two fats are used in cooking and in connection with other food products. In fact, many a dish would lose its characteristic flavor if such fats were omitted in the preparation of it.

Butter, especially in the process of cooking, is prone to chemical changes which produce most desirable effects. Cooked asparagus treated with drawn butter, in one case simply melted and poured over, and in the other case slightly browned before being applied to the asparagus, produces a change which is very pronounced to the taste. In the former case the change as to flavor is very mild, whereas the slightly browned butter brings out the characteristic flavor of butter fat to a marked degree.

Using neutral vegetable oils in cooking, which possess no characteristic taste and which on account of their chemical nature are not capable by the treatment in cooking of producing any characteristic flavors, do not for that reason produce edible dishes which appeal to the taste, unless, as in case of salad dressing, they are incorporated with other condiments or foodstuffs to bring about characteristic and distinctive flavors. This factor is so to a marked degree in bakery products, such as cake. Anyone can tell immediately, almost instantly, whether a cake possesses the butter flavor or not. Purified cottonseed oil, which is quite extensively used in the baking of cakes, while it produces a wholesome and very edible product, nevertheless does not possess that delicate flavor characteristic of butter fat.

The history and manufacture of Oleomargarine, more recently named Butterine, is interesting from not only the food value standpoint, but also that of the legal one. This product was introduced by the Paris Health Council, April 12, 1872, and its sale was authorized at that time, but provisions were made that it should be sold upon its merits and not marketed under the name of butter. Napoleon III., in an effort to reduce the high cost of living, commissioned a French chemist, M. Mège-Mouries by name, who endeavored to develop a good wholesome cheap substitute for butter. After several trials, the chemist was able to produce quite a satisfactory edible product. It was sold under the name of Margarine, and this word seemed to arouse the hostility of the dairy interests, for the reason that they realized that this fat would be a keen competitor of their product.

In our own country the Butterine manufacturers have had their own trials and tribulations. The production of this wholesome and edible product, which is an ideal fat

for the poor man's table, has been legislated against until its manufacture has been so harassed that the industry has had difficulty in keeping up its existence. The legislation in this country has been purely a political one. All parties have finally agreed that the manufacture of this product gives a wholesome and absolutely pure food, and that in its manufacture the factors of hygiene and cleanliness are fully borne in mind, and nothing but the most thoroughly wholesome and inspected products are used; the factories are conducted under the most sanitary conditions, and the finished product represents 100 percent purity. The legislation which makes it so difficult for the Butterine manufacturer to operate, is the Federal law governing its production and sale. The law as drawn does not permit of the addition of any yellow coloring matter to the product, although it allows artificial coloring matter in the manufacture of pure butter. The wording of that section of the law is very clever. It states the ingredients that are permissible in the manufacture of Oleomargarine or Butterine, and provides that they shall be churned in milk. If the finished product thus made from natural ingredients has the semblance of natural butter, there shall be a tax of 2 cents a pound. If, on the other hand, artificial coloring is added, then a tax of 10 cents a pound shall be levied. Butter from milk produced in the winter time is practically colorless, and this apparent eye defect is overcome on the part of the butter manufacturer by adding artificial color. As a matter of fact, the butter manufacturer today, recognizing the importance of color in his product, in so far that it appeals to the eye of the consumer, and further knowing that the natural color of June butter is of an evanescent and fleeting nature, has standardized the color of butter by adding to it during the process of manufacture, either annatto or a yellow aniline dye, which gives a stable and permanent color to his output. The point in the law to which we direct especial attention is the wording of "Color, the natural semblance of butter." As we have already shown that butter only has color when the cows are grazing in the summer, and is practically colorless in the winter when they subsist largely on dry food, the anomaly and unfairness of the situation lies in this fact that butter has a natural yellow color in only a few months of the year; that it would be practically colorless during the other months, and as the dairy farmer knows that the American esthetic taste demands yellow in his butter, he artificially colors it during that portion of the year when no coloring matter is added to this product from the feed. We are sure that the unfairness of this situation will appeal readily to the mind of the reader when we put it in the concrete form. The wording of the law assumes that butter as produced throughout the year always has a standard uniform yellow color. Now, the contrary is true, but the farmer recognizing the defect of his product in this regard has standardized and made uniform the color of butter by adding during the whole year artificial color so as to give his finished product a uniform and constant color in imitation of what the product would be during the most favorable grass season.

Here are two industries separated by a thin wall. One man puts artificial color in his product, representing the fat obtained from the milk, and is taxless. The other man, on the other side of the wall puts artificial coloring in his product, names it Oleomargarine, or Butterine, and is taxed 10 cents a pound for it. The question of the wholesomeness and food value of Oleomargarine or butter is not in any way influenced by the natural or artificial coloring matter added to it. The coloring matter only represents

a decorative feature, and this factor in this country would have no value at all if the people had been educated to eat white butter, as is the common practice in Europe, but the ultimate effect of this, with the taste of the consumer as it is, is to put a burden on Butterine in this country which it cannot overcome. The 10 cents a pound additional tax keeps the price of butter at the elevation which is satisfactory to the butter manufacturer. Removing this tax would reduce not only the butter price, but also probably that of Butterine.

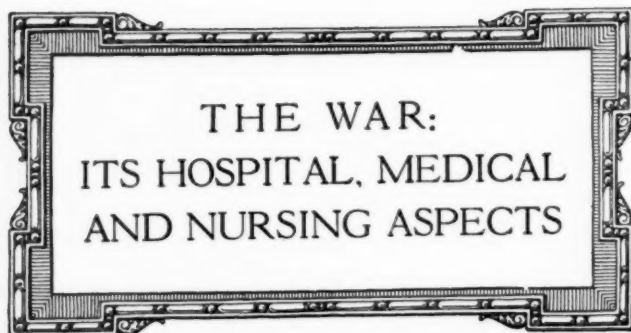
Manufacture.—The ingredients entering into the manufacture of Butterine represent the choicest and best portion of fat of the animal carcass. These have all been thoroughly inspected and passed upon by the United States Bureau of Animal Industry. The beef fat is melted and the excessive amount of stearin is separated out, leaving the more liquid portion for use in the manufacture of Butterine. The object of this is to have a fat approximating more nearly the melting point of butter fat. That from the hog is also used, and after being thoroughly purified is added to the mixture. The beef product is known as Oleo and the hog fat as Neutral, the word neutral in this instance signifying that it is absolutely bland and neutral to the taste. Vegetable oils of various kinds are added to some of these mixtures. The use of the vegetable oil depends upon the grade of product which is to be manufactured. The fats are all melted and then churned in milk which has been previously pasteurized and fermented. The product is then allowed to stand for some time until it ripens. It is then worked like butter and made into the finished article Butterine. The condition of the factories in which this product is manufactured is as a whole far more sanitary and hygienic than the factory in which butter is made, and the raw material is much more carefully selected, as all these products are carefully inspected and certified to by the United States Government.

The milk, as we have stated, is first pasteurized for the purpose of killing any disease or pathogenic organisms, and then allowed to ripen by the addition of a ferment which is prepared in a scientific manner. It is then used in the process of churning.

We have been and are now of the opinion that the Oleomargarine Law, as it now stands on the statutes, should be repealed, in so far that the 10 cents a pound tax for artificial coloring should be removed. Some small tax necessary to cover the expenses of inspection during its manufacture and to insure its sale under its true name, would be perfectly legitimate and proper, but aside from this, this wholesome product should not be in any way handicapped, and especially in these serious times when food prices have gone so high that the use of butter in any form is almost prohibited.

A New Canadian Red Cross Hospital

The summer home (described in reports as a "palatial residence") of Mr. and Mrs. Ira Kippon, of South Orange, N. J., has been extensively remodeled for use as a hospital and formally turned over to the Canadian Red Cross. This new hospital is located on Leek Island, which is near the western end of Grindstone Island, about six miles from Clayton, just across the boundary line between the United States and Canada. The building will accommodate sixty patients, and this number will be received at first. These first patients will, when convalescent, be placed in tents and other buildings, making room for others in the hospital. The entire capacity of the institution, bed patients and convalescents, is 250.



THE FRENCH HOSPITAL SHIP FLEET

Organization Facilitates Treatment of Large Numbers of Patients—Feeding Likewise Planned on Large Scale

Dr. Rosalie Slaughter Morton, of New York, an attending surgeon at Vanderbilt Clinic, spent last summer in the service of the allies, and was later decorated with the Serbian order of St. Sava for her work in Macedonia and Saloniki, says the editor of the *Red Cross Magazine*. She was granted special permission by General Sarrail to make the journey to and from Saloniki on French hospital ships, the equipment of which, as well as the medical and administrative work on board, she was given every opportunity to observe. Her impressions are recorded in an article in the *Red Cross Magazine*.

Eight hospital ships under the French flag, she says, carry the sick from Saloniki to Bizerta and to Toulon. These ships are the *Blen-Hoa* (described in an abstract in *THE MODERN HOSPITAL*, January, 1917, p. 47), the *Dugay Trouin*, the *Vingh-Long*, the *Sphinx*, the *Andre-Lebon*, the *Bretagne II*, the *Tchad*, and the *France IV*. The first three are converted merchant vessels which formerly ran between French Indo-China and Marseilles. Dr. Morton made the journey from Toulon to Saloniki on the *Bretagne II*. What was formerly the dining room of the ship was filled with the sick, who were brought in by stretcher-bearers. On the lower decks a crane carrying a canvas hammock with high sides was used to swing the patients down on their berths. Six hundred patients are carried on the ship.

Dr. Morton made the return journey from Saloniki on the hospital ship *France IV*, which, since the sinking of the *Britannic*, is the largest hospital ship in the world. The vessel was formerly the liner *LaFrance* of the Compagnie Générale Transatlantique, carrying mail and passengers between Havre and New York. On the voyage described by Dr. Morton she carried 2,526 sick and wounded. The medical officers include a chief physician with the rank of colonel, who supervises all the hospital work of the ship; a medical chief, with the grade of commandant; 4 surgeons who rank as captains; and 3 lieutenants. There are also 2 pharmacists, 11 women nurses, 75 men nurses, and 100 orderlies. Each physician in charge of a division has under him about 250 patients, and is assisted on his rounds by six attendants, as follows: (1) a woman nurse who records the cases needing hypodermic medication and what is to be given; (2) an orderly carrying a box of nineteen medicines in tablet form; (3) an orderly carrying a pitcher of tisane, to help the patients swallow their medicine; (4) a clerk carrying the patients' bedside record; (5) a man nurse who prepares the patients for examination and records all prescriptions to be filled; (6) an attendant carrying the patients' temperature records. This system greatly facilitates the physician's work. Organization, Dr. Morton remarks, enables the

French to conduct their hospitals on land and sea with less than half the force maintained by the British.

System is also carried into the feeding of the patients, which necessarily is on a large scale.

"At eleven o'clock, the hour for luncheon to be served, an orderly appeared carrying aluminum plates, knives, and forks in a basket. One of each was left with each patient. On the soldiers' decks, an orderly followed, carrying two buckets of hot, soft-boiled eggs; after him came two more, each carrying two buckets of a meat and vegetable soup. Two other men carried four buckets of well-cooked cereal, and three carried pitchers of milk or tisane. Huge baskets of bread, cut in quarter and half loaves, were quickly emptied. This menu was served to those who were not restricted to liquid food, but were unable to take the heavier diet of meat, or fish, with potatoes, beans, bread, lemonade or tisane and dessert. The food was changed daily, was always well prepared, and carefully inspected and cleanly served. Breakfast consisted of coffee or tea with bread at seven o'clock. Dinner was much like lunch and was served at five. Bouillon could be had between meals. Everyone was asleep by half-past six in the evening.

"The officers had separate trays, or came to the dining room where a varied menu was served.

"The physical strain of the amount of work which must be done, and the tremendous emotional strain of it, could not be borne if it were not for the interval of comparative rest afforded by the six days' necessary stay in Toulon, two for transferring the patients to the waiting trains, and four for disinfecting the ship. Three and a half to four days are taken for the return trip to Saloniki."

* * * *

BRITISH HOSPITAL SHIPS

Special Problems of the Hospital Ship—Operating Theaters in Converted Liners

Before the war, says Fleet Surgeon E. C. Lomas of the British navy, writing in the *British Medical Journal*, there was only one British hospital ship in commission, the *Maine*, which was originally fitted out by a group of American ladies during the South African war and subsequently taken over by the British Admiralty. Unfortunately this vessel went ashore in a thick fog on June 19, 1914, and was lost, but the arrangements for the provision of sufficient hospital ships for the fleet previously made by the admiralty worked admirably. Within four days of the order to mobilize for war three ocean liners were converted into hospital "carriers," and with their medical and nursing staff, and full equipment of cots, bedding, and medical and surgical stores complete.

In the meantime work was being pressed forward in six other ships intended for more permanent service from plans which had already been prepared during peace, so that they were ready for sea in about three weeks or less. These vessels were mostly intermediate liners, in which the passenger accommodation and cargo space were easily adapted to their new purpose. The swinging cots fitted averaged about 220, but additional emergency accommodation was provided for about 300 more patients. In the Mediterranean this number was sometimes largely exceeded, over 900 cases being conveyed to a base hospital on one occasion.

As a rule, there are six or seven wards for men and two or three for officers, which were adapted by converting portions of the saloons or removing cabin bulkheads,

some officers being also nursed in cabins. A padded room for mental cases was also prepared. The decks are covered with green corticine, which is easily kept in a high state of polish; the bulkheads and cots are enameled a very light green. Ventilation is maintained by means of scuttles, supply and exhaust cowls, and special motor-driven supply ventilators.

The operating theaters are installed either in music rooms or saloons, or in specially constructed erections on the upper deck. In the former case the somewhat ornate walls are covered in with match-boarding enameled white. The rooms are divided into two parts with separate entrances and sliding doors between, one-half being used as a preparation and sterilizing room. The decks are tiled and all the tables, shelves, and other structural arrangements are of the aseptic pattern. In spite of their extemporized character, it does not appear that any case of sepsis could be definitely attributed to faulty surroundings. The cot lifts, which serve the wards, are placed near the operating rooms so that the exposure of a patient after anesthesia is reduced to a minimum.

On the home station the work of the hospital ships is, to a large extent, similar to that carried out by the *Maine* in peace time. The fleets at their different bases—often in remote districts, where no shore accommodation is available—are attended by one or more ships. When nearly full they are either cleared by smaller hospital ships, which convey the patients to a convenient rail-head for further transference by ambulance train, or at stated intervals the hospital ships proceeding to the scene of an action had to be to discharge their cases, and are then coaled, provisioned, and if necessary repaired or refitted.

It soon became evident that any preconceived ideas of hospital ships proceeding to the scene of action had to be discarded. Apart from the difficulties of transporting wounded men from the fighting ships in bad weather at sea, it was obvious that the conditions of modern naval warfare precluded these ships from remaining with their engines stopped without running grave risk of being torpedoed by submarines.

In harbor the conveyance of patients is carried out by converted drifters or in ships' picket boats and cutters. Some of the former are fitted to take eighteen cot cases under cover, and in bad weather are far preferable to ships' boats. On arrival alongside, the cots are hoisted in by hydraulic or steam cranes, in a tray which would take either a service cot or a stretcher. When comparatively large numbers of men wounded in action have been brought in by destroyers and light cruisers, it has been found quite possible to get these vessels alongside the hospital ship, which considerably accelerates the transfer.

Disembarkation is simply the converse of the process of embarking a considerable number of cases. It is done in two ways—that is, either by discharging to a smaller hospital ship which comes alongside or by the ship herself proceeding to a port with rail facilities.

Improvements are constantly made in these ships; for instance, in the x-ray room of the *Garth Castle* aerial leads were installed, viewing boxes and adjustable carriers for water-cooled tubes made, and many other accessories fitted up by the ship's artisans and electrician under the supervision of the surgeon in charge of the department.

A new feature is the provision of a ship specially for zymotic diseases. The ordinary hospital ships are not able to deal with these cases without seriously impairing their general efficiency, so the advent of the *Agadir* was the greatest possible boon.

Stowage of Wounded on Ships of the British Navy

The stowage of the wounded on board battle ships has exercised the minds of naval medical officers for many years. Deputy Surgeon-General Robert Hill and Fleet

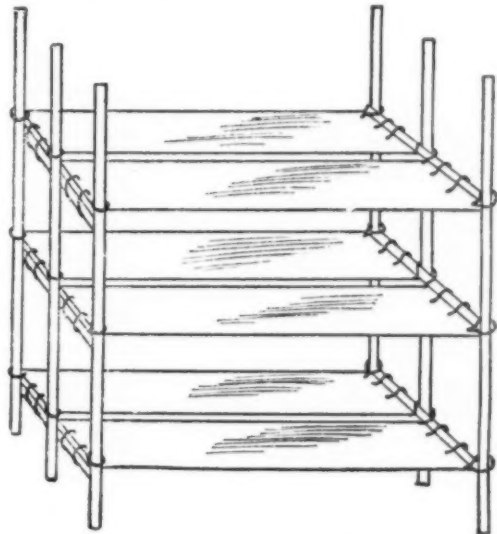


Fig. 1. A group of six cots in position, designed by Staff Surgeon Brangan in H. M. S. Edgar.—*British Medical Journal*.

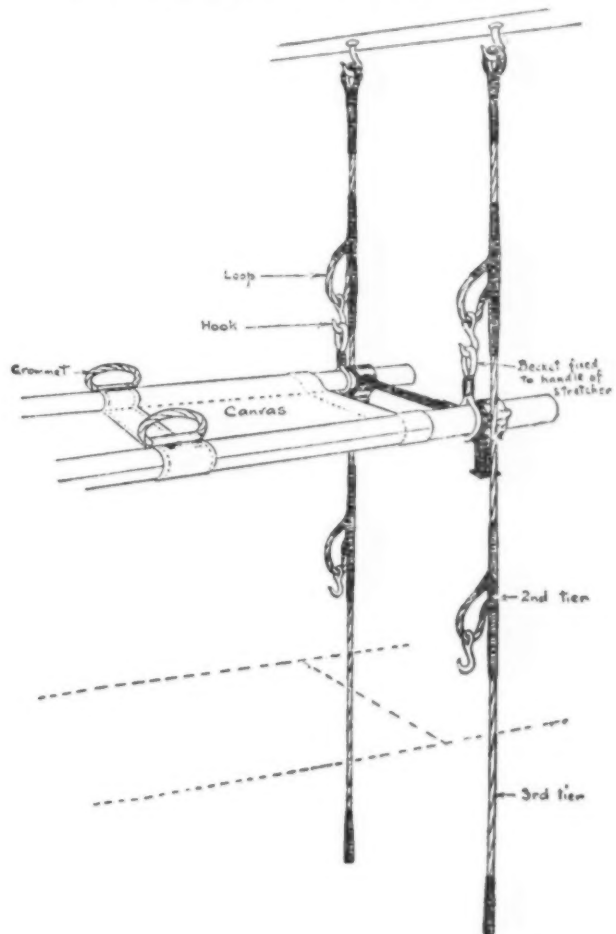


Fig. 2. Bamboo "field" stretcher slung from wire roping in tier-of-three system; design adopted by the British Admiralty.—*British Medical Journal*.

Surgeon E. A. Penfold, both of the British navy, describe in the *British Medical Journal* various designs for increasing the accommodation for the wounded. In all designs the tier system has been employed. The two chief types

produced (Figs. 1 and 2) are the rigid wooden skeleton to hold cots or stretchers and wire roping, fitted with loops at intervals of 2 feet to carry the stretcher, fixed to the beam above and either fixed to the deck below or allowed to swing clear. The committee appointed to report on accommodation for the wounded decided to adopt the wire-roping system, erected in single tiers for three stretchers, as the most useful. This contrivance, rigged near the distributing station on both sides of the main deck and in other suitable sites, increases the storage room threefold, keeps the wounded off the wet deck, and places them in situation from which they can be easily attended to and moved should the disengaged side become the engaged one.

* * * *

VICTORY OVER WOUNDS

The Disabled Soldiers' Resurrection—Results of the Re-educational Work of the Canadian Military Hospitals Commission

Canada should be as proud of her wounded soldiers' victory over their wounds as she is of the glorious fights in which they fell, says a publication of the Military Hospitals Commission of Canada. Their struggle up from the depths of disablement is often as hard, and even as heroic, as their desperate defense of Ypres or their dashing capture of the Vimy ridge.

We hear little, altogether too little, of these hard-won victories by disabled men, because they are fought out in the seclusion of a hospital, not in the theater of war with the whole world looking on. But such victories equally deserve public recognition. They show the same spirit, the same pluck, and still more indomitable perseverance.

A preacher on Easter morning was thanked for the inspiring sermon he had just preached on the resurrection. He said: "I had my text sitting in front of me—a man in khaki, with an empty sleeve. He has had two resurrections already. He was buried by a shell explosion, and was dug out only just in time to save his life. That was the first. He spent months in hospital, fighting his way back to health. That was the second.

"Doctoring and nursing of course did much for him; so did the exercises and occupations that they provide nowadays—perhaps the best part of the treatment. But the man himself was working out his own resurrection, by resolutely putting his own will-power into the task. Now he is almost ready to go out into the world, a better and abler man, he says, than he was before, in spite of his lost arm.

"While the rest of us are thinking of a resurrection beyond the grave, he has won a resurrection this side of it, to a new life of activity and independence among his fellow-countrymen."

Authentic cases resembling that are not rare in the records of the Military Hospitals Commission. Here are a few that have just been communicated to us:

A mechanic who enlisted in the Princess Patricia's Regiment was wounded, returned to Canada, spent three months in a convalescent hospital, and now earns double his former pay, having taken full advantage of the mechanical drawing and arithmetic classes carried on there. Writing to the hospital instructor, he says:

"When I enlisted I was earning about \$3 a day at my trade. At present, and since my discharge from military service, I am, technically, a better man all around; I am able now to hold a job as foreman in a machine shop, with more than twice the salary I was getting before. This benefit to me is greatly due to your practical information,

and my only regret is that I was unable, after my discharge, to continue instruction with you as you had advised."

Another letter is from an ex-private in the Thirteenth Battalion. Before enlistment he was getting \$12 a week as driver on a city milk round. "I always had a liking for drawing," he says, "and felt that if ever I had a chance I would take up a course of mechanical drawing." This opportunity came to him at one of the commission's convalescent hospitals. After six weeks' application to the work there, he was able to secure an appointment with a salary beginning at \$75 a month, with good prospects of advancement.

A locomotive fireman enlisted, was severely wounded, and had to have his left arm amputated. Under the commission's scheme of reeducation, which is offered to all men incapacitated for their former work by service, he received special training in telegraphy and railway routine. As a result, he secured an appointment as station agent and despatcher, at \$110 a month.

Still another patient, formerly a mechanic, passed the civil service qualifying examination after instruction in hospital, and has got a custom house position at \$900 a year, rising to \$1,500.

A man who had been a guide and trapper and had never handled tools returned from the front with one eye destroyed by a wound and the sight of the other eye impaired. In spite of all these old and new disabilities, by putting his mind to it he rapidly developed such skill in the hospital workshop that very soon he was clearly on the way to become a first-class carpenter.

Equally remarkable is the case of a Polish laborer. He came to Canada six years ago, and worked in a coal mine till he enlisted. At the front he was both gassed and buried. Though he knew absolutely nothing about carpentry to begin with, after two months of instruction in hospital he also acquired an extraordinary mastery over the tools.

Not every man, of course, can "double his pay." But one of the most cheering facts proved by experience during the war has been this—that almost all the disabled men, including the very seriously wounded, can be equipped once more with power to earn a good living.

And often, as Lord Shaughnessy said the other day, the occupations and training provided by the Military Hospitals system "reveal astonishing talents which even the man himself did not know he possessed."

* * * *

Designations for Field Hospitals and Ambulance Companies

Odd numbers will be used to designate field hospitals and ambulance companies when they are motorized and even numbers when they are animal drawn. In order to conform to this system the numerical designation of field hospital and ambulance companies No. 2, No. 11, and No. 6, have been changed to No. 11, No. 2, and No. 13, respectively.

* * * *

Mobile Laboratory Units

The medical advisory committee of the American Red Cross Society are planning to equip five laboratory cars, which will be prepared for emergency work against possible outbreaks of epidemics in cantonment camps in this country. Each car will have a staff of five or more experts and will be so stationed at various cities that any cantonment can be reached with one of these laboratory

cars within twenty-four hours on receipt of request from federal or state authorities. The United States Public Health Service has such a mobile laboratory unit, and the plan has also been commended by the surgeons-general of the United States Army and Navy.

* * * *

FOOD CONSERVATION NEEDED IN CANTONMENTS

Waste of Food and Fuel in Army Training Camps—A Field for Expert Dietitians

Women expert dietitians have a war service to offer the country scarcely less important than that offered by the nursing profession, in the opinion of the Rev. Caroline Bartlett Crane, chairman of the Woman's Committee (Michigan Division) of the Council of National Defense. In an address before the recent national conference of dietitians at Cleveland, October 18, Mrs. Crane said:

"Women are rightly admonished and implored not to waste a scrap of food in their households; not only to observe meatless and wheatless days, but to do butterless cooking, and to abstain from peeling potatoes before cooking, to have a conscience about the sugar in the coffee, and the scrapings of the bread bowl. They are asked to assure the 'clean plate' by careful serving so there shall be no overplus of food to throw away. All this is right, and the women are loyally responding to this call, in order that our soldiers may be fed.

"At the same time, what is happening in the cantonments where the soldiers are fed? I have it from many and direct sources which I am unable to doubt, that buckets and boilers full of bread, meat, oatmeal, cooked fruit, etc., are carried out and thrown away. 'Enough good food,' one young officer in training stated, 'is bodily thrown away in our camp to feed 500 families.' Some of it is so spoiled by bad cooking that it never reaches the table. Some is served, but so badly cooked that it cannot be eaten. Some is spoiled because of miscalculations and excess requisitions. Other food is thrown away because there is not enough to 'go clear around' on the second serving. Great quantities go to waste because the portions served are too large to be eaten. One young soldier told me that he helped to carry out and throw away eight gallons of prunes, emptied from the individual dishes served to each soldier without regard to whether he liked prunes or not.

"At one cantonment I was told in explanation that it was the fault of the contractor. The loss was his, and not the government's. But the women are told that there is a world shortage of food and that no matter how able we are to buy what we want, we commit a crime if we waste food, because there is not enough to go around. To quote one high authority: 'It is just as great a crime in effect to waste food as to go into the houses of the needy and steal the food from them.'

"Now the knowledge of this gigantic waste cannot and ought not to be kept from the people. In fact, it is fast percolating into the homes that are exhorting to such self-denial, and we are asked many questions by women as to why they should deny themselves to save food for the soldiers, only to have it thrown away wholesale when it reaches them. The soldiers who have spoken to me about it are both astonished and indignant at what they have seen. In some cantonments, I am informed by soldiers and workmen, that an equally notorious waste of wood goes on, great quantities of remnant lumber being 'disposed of' in summer bon fires—while fuel dictators are appointed to keep the civil population from freezing this winter.

"It is only recently that the necessity of women's nursing has been appreciated. Now the civil population is threatened with a nurse famine because of the great and imperative demand for trained nurses in the war zone and in the cantonments.

"Now, in this task of scientific and economical feeding of the soldiers, the body of women trained in dietetics and household economies have a very valuable knowledge and experience which should be called into requisition by the government.

"The women dietitians who already control the feeding of many thousands of people in the hospitals and institu-

tions of the country should have their expert service demanded in feeding our soldiers and at the same time saving uncounted tons of good food that without doubt is now being thrown away.

"Here is an instance of what has been done in my own state:

"Some eight hundred soldiers of the Michigan National Guard were to be quartered in Grand Rapids for two weeks (it turned out to be four weeks). The quartermaster after meeting numerous refusals from restaurant keepers to undertake the rationing at 25 cents a meal, appealed to the Grand Rapids unit of the Woman's Committee, Council of National Defense. On two days' notice they undertook the work, using the Masonic Temple for a commissary department. Women prepared the menus, did all the buying and administration (the actual cooking being done by an army chef detailed for the purpose), set the tables abundantly and attractively, hung the rooms with flags and flowers, were always present to welcome the boys, gave such eminent satisfaction that not a complaint or a rudeness of any sort was recorded from the boys—and saved over \$2,000 on the contract which is to be invested in comforts for these soldiers. A similar satisfactory work of smaller dimensions was carried on in Detroit by the National League for Woman's Service. All this was the work of non-professional women—just sensible women and good housekeepers, who were doing their volunteer patriotic bit.

"I am sure that the War Department does not countenance waste of food in the cantonments or anywhere else. The launching of this was in a herculean undertaking and it is no wonder that there are still loose ends to be knitted in. I believe that it is high time for professional dietitians to be called to this greatly needed line of war service. They should prepare menus, apportion rations, utilize leftovers, and hold classes of instruction for army cooks. It has always been woman's work to nurse and to feed humanity. The expert nurse has won her place. Now let us make room for the expert army dietitian."

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SOLDIER WITHOUT HANDS TURNS FARMER

French Under-Officer, Mutilated by Grenade Explosion, Devises Apparatus to Take the Place of Hands

One French farm, we are told, is being cultivated by a former soldier who lost both hands in the war. A. R. Decker, a special correspondent of the *Chicago Daily News*, tells the story.

Before the war young Jean Baptiste Ledrans was a skilled mechanic, especially accustomed to repairing plows and reapers. In the army he distinguished himself by valor and gained promotion to the rank of sublieutenant, his mechanical ability and proficiency in the use of the grenade earning for him the position of instructor. To this he owes his terrible misfortune. During 1916, while he was instructing some soldiers in the use of the grenade, a new recruit handed him a loaded grenade by mistake for the one used in practice. The loaded grenade exploded, killing six men and wounding several others. One of Ledrans' ribs was broken, his right eye was put out, one ear drum was pierced, and both his hands were blown off. Notwithstanding this tremendous affliction, Ledrans' spirit remained unbroken. Two months after the accident, his faithful sweetheart received a letter written by him. They were married in January, 1917, and now he cultivates his father-in-law's farm.

Courage and ingenuity, it would seem, could scarcely go further than they have in this case. His mechanical ability has enabled Ledrans to design apparatus which enable him to hitch up and drive a horse, load and unload a wagon, work in the fields with various tools, write, shave, eat, drink, comb his hair, brush his teeth, and adjust his collar. For the work in the fields a special harness is used. A steel plate, which helps to support the various tools, is strapped on the body. On the left arm is carried a ring

through which the handle of the tool—rake, shovel, hoe, etc.—slides as through the hand, while the right arm is equipped with a socket and set screws in which the various tools can be fixed. When the farm work is done, his wife removes the working harness, substituting in its place a pair of elastic gloves with which he helps himself at the table or performs the various toilet operations.

This, perhaps, is an example of the stout heart in the face of what would otherwise be crushing calamity that has enabled France to hold out against suffering that can be inflicted by an unscrupulous invader. Yet, inspiring as the example of this brave farmer-soldier is, one cannot help feeling that he ought to be given the opportunity to be of still further practical use by designing orthopedic appliances for the use of others who have suffered similar misfortunes and who, though perhaps as courageous, have not the advantage of his mechanical skill and ingenuity.

* * * *

An Aeroplane Ambulance

Aeroplanes have been used or proposed for almost every purpose for which conveyances that move on the earth or the water are utilized. The *British Journal of Nursing* tells us that Dr. Chassing, of Puy de Dome, advocates



An aeroplane ambulance. From the *British Journal of Nursing*.

their use as ambulances in cases of urgency. The illustration shows a rehearsal of the use of such an ambulance at Villacomblay. The *British Journal of Nursing* adds that "it is reported to be an easy method for the injured, who are usually carried about 500 feet high."

* * * *

A Heroine of the Air Raids

A nurse was hurrying along the London streets, says the *British Journal of Nursing*, while the sinister boom of the anti-aircraft guns sounded from all directions.

"Take cover, nurse," shouted the policeman.

"I can't, I am on my way to a case," was the quick reply.

"You must take cover," ordered a special a few yards farther on.

"If I take cover it may be hours before I get to my case," replied the nurse.

"Well, you must take your own risk. Run for your life, or you'll be killed." And she did run, and got to her destination at the hour she had pledged.

Well done, nurse!

WAR TIME INSTITUTION ECONOMIES

The Reclamation of Used Alcohol

BY ELIZABETH SELDEN, B. S., R. N., Superintendent Butterworth Hospital, Grand Rapids, Mich.

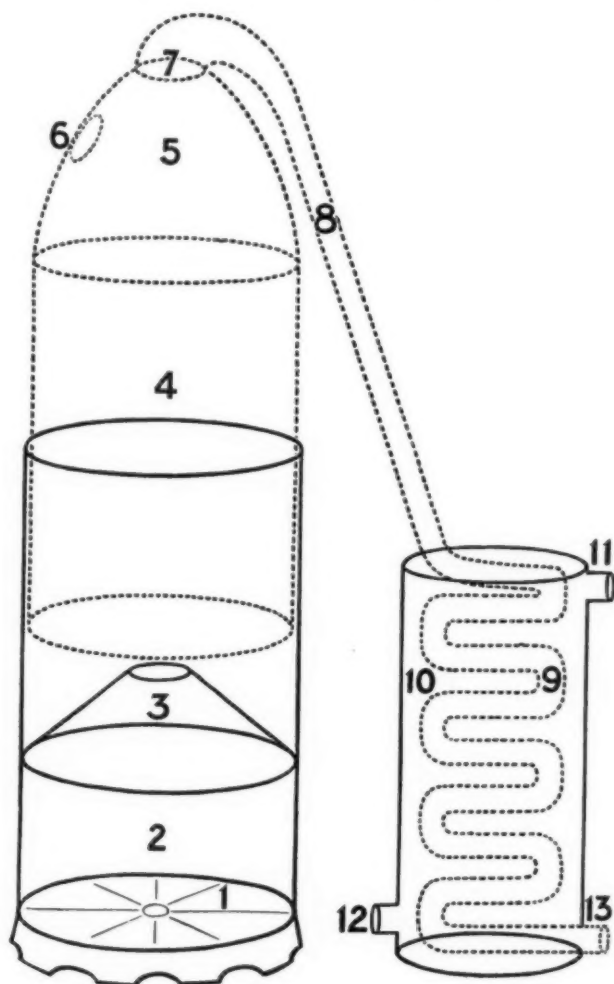
So much has been said and written on the subject of the reclaiming of gauze, and on the universally felt need of the extreme economical use of all surgical supplies, that I wonder no one has concerned himself with the problem of the reclamation of used alcohol. At this time of great demand upon our people for supplies of all kinds it becomes the duty of every institution, as well as every individual, to do its part in the plan of conservation. Alcohol is generally conceded to be one of the best all-around germicides and, when tax-free, one of the cheapest, even during our present disturbed economical and civic condition. Because of this fact, a large amount of alcohol is wasted which might be saved. Everything which can be done in conserving the supply of alcohol should be done. Immense quantities are being used by the government for army and navy purposes, in the manufacture of ammunition, and in the production of drugs. This increased demand made upon the supplies by the government has necessarily decreased the available supply for other demands and increased the price.

Institutions using the untaxed alcohol cannot only serve their government but lower their own expenses, not alone by avoiding waste in the use of alcohol, but by reclaiming it by distillation of much of that used in the sterilization of instruments and in hand solutions. Even here in our own hospital, where it is essential that the strictest economy be exercised, we found that the alcohol, which is the general hand solution used, was being poured over the hands rather than employed in a basin of the solution in which the hands were immersed. After consultation with our doctors, basins containing the alcohol were substituted for the old method. These basins are replenished when needed. The used alcohol from these basins was all saved and stored with that obtained from other sources. At the end of a busy two weeks there was some 5 gallons in the receptacle. This alcohol contained, as its chief impurities, iodine, mercury bichloride, lysol, compound cresol solution, soda, lime, and oil of cloves, according to the different preparation preferred by the surgeon. Our next problem was, how to reclaim this waste alcohol or render it again usable.

As redistilling is the only method whereby it can be made safe for surgical purposes, our task was to discover or invent some means of redistillation. The purchasing of a still was considered, but the fire risks involved caused us to hesitate just at first, and so for a short time a firm undertook the redistilling of the alcohol. From this firm we learned that a tax was placed on redistilled alcohol, which necessitated a visit to the city hall. Here we were informed by the revenue officer that it was a mere technicality of law, a difference in terms such as this: that if alcohol was rectified, made absolute, it was taxable, but if

redistilled and the institution was under federal bond it was not. He also told us that if a still was installed a license would be necessary, but also that it involved no expense.

In the process of reclaiming the alcohol it was discovered that, while with certain stills 75 percent was the strength of the redistilled fluid instead of 95 percent, a larger amount could be obtained owing to the fact that more of the alcohol would be carried over at a lower temperature due to the difference in the degree of heat needed for vaporizing the alcohol at varying densities.



Alcohol still, costing \$25.

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| 1. Gas or electric plate or live steam. | 7. Opening to allow escape of alcohol vapor. |
| 2. Steam kettle or water jacket (iron or zinc). | 8. Tube carrying alcohol vapor (copper, tin-lined). |
| 3. Funnel for localizing steam (tin or iron). | 9. Worm condenser coil (copper, tin-lined). |
| 4. Evaporating pan (copper, tin-lined). | 10. Water jacket or condensing tank (iron or zinc). |
| 5. Condenser head (copper, tin-lined). | 11. Outlet for water. |
| 6. Opening for introduction of alcohol. | 12. Inlet for water. |
| | 13. Outlet for alcohol. |

The result of the investigation was that the 5 gallons of used alcohol upon redistillation netted us some 3½ gallons of a 75 percent solution at a cost of \$1. With 95 percent alcohol at a price of \$2.25 on the gallon, it was a saving of about \$1.25 on the gallon of the 75 percent solution. It was also further found that a gallon of the used alcohol which represents a 75 percent solution, would, when redistilled to a 95 percent solution, give half a gallon.

By redistillation it is possible to obtain from this waste alcohol a product of considerably higher alcoholic strength

and comparatively free from impurities, the outlay in expense for the apparatus being warranted by the cost of alcohol saved. This product, however, can be used for external purposes only, as it is impossible to secure a preparation sufficiently pure for internal use without rectification, which process the government does not permit.

The amount of waste alcohol secured from various sources in a medium-sized hospital will average at least 2 gallons a week, which will yield about one gallon of 95 percent alcohol, or a saving, at the present price of untaxed alcohol, of \$1.10 a week.

When contemplating the installation of a distilling apparatus it is essential that all phases of the situation be carefully considered, namely, the size of the institution, the amount of alcohol used in the hospital, the wealth of the institution in connection with the cost of the still, and the fire risks with reference to the structure of the building.

The type of still chosen must depend somewhat upon the amount to be invested and the alcoholic strength desired in the finished product. A comparatively inexpensive still can be obtained which will yield a 70 percent distillate. This still consists of an evaporating pan with water jacket heated by gas plate; a retort head leading to a worm condenser which is surrounded by a cold water jacket. However, this still is not practicable for general use.

The materials used in the manufacturing of stills are copper, tin, zinc, galvanized iron, and iron. All parts of the still with which the alcoholic preparation will come in contact should be made of the copper and tin-lined, namely, the evaporating pan, retort head, and condensing coils. The water jacket for the condenser can be made of zinc or galvanized iron, and the water jacket for the evaporating pan of galvanized iron with copper bottom, or iron.

The stills vary greatly in size, as do their component parts. A convenient size for the evaporating pan is from 3 to 5 gallons capacity, allowing for the distillation of from 1½ to 2½ gallons of waste alcohol at one operation, the pan being filled to about one-half its actual capacity to allow for expansion. This pan should rest loosely upon the water jacket, after the fashion of a double boiler, or, if tight, the water jacket should have a vent to permit the escape of steam, thus preventing explosion from the steam pressure. The evaporating pan should be flat-bottomed and shallow, to expose as much as possible of the liquid to the heat, also to increase the surface for evaporation. The retort is best of dome-shape, as this favors the condensation of water vapor before reaching the condensing coils. A funnel-shaped tube leads from the retort head and connects with the upper opening of the condensing coils. These condensing coils extend in spiral shape to the base of the water jacket, and are here furnished with an exhaust from which the condensed vapor is collected into suitable containers. The coils are cooled by means of running water, which enters at the base of the water jacket and is carried away by means of a waste pipe at the top, thus insuring complete condensation of the vapor.

Heat is best furnished by a gas or electric plate, although live steam is very practical if it can be obtained.

The Prentiss alcohol reclaimer will yield a distillate of from 90 percent to 95 percent, and is one of the best but is a more expensive apparatus and for that reason not practical for smaller institutions. It consists of an evaporating pan with hot-water jacket, similar to the one described above, but the retort head is replaced by an upright cylinder containing perforated copper plates arranged in a series, horizontally about 5 inches apart.

These serve to condense much of the aqueous vapor being carried over with the alcohol vapor and increases the strength of the distillate to that degree. The vapor is then led to a worm condenser by means of a horizontal tube.

An apparatus carefully installed and manipulated affords little danger—no danger if steam heat can be supplied. With an open flame the danger consists in the escape of uncondensed vapor, which, of course, is very inflammable.

An apparatus of the size mentioned would require a floor space of about 2 feet by 5 feet, so located as to secure gas and running water, with a carry away for the overflow of water from the condenser.

It is quite possible for any institution to manufacture its own still at an initial cost of less than the market price. The still for our own hospital is now in the process of making as described above.

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CONSERVATION IN USE OF COAL

The Committee on Coal Conservation, Chamber of Commerce of the United States, Gives Directions for Firemen—Useful Hint for Hospitals

In a circular addressed to the members of the Chamber of Commerce of the United States, the committee on coal conservation makes the following suggestions, which hospitals will find it profitable to study and observe:

To the Members of the Chamber of Commerce of the United States:

Fifty million tons of coal have to be saved in the next twelve months, if industries of all kinds are to be free from restrictions upon their supplies. This is the statement of the United States Fuel Administration, which announces that it will impose limitation upon any industry only as a last resort in its determination to provide sufficient coal for purposes of war, for public utilities, and for domestic use. Every person who uses coal can do his part to prevent limitation being imposed upon industries; he can do it by cutting off with an iron hand all waste and unnecessary consumption. He should understand, too, that saving of 50,000,000 tons means prevention of only one-third the coal that is ordinarily wasted.

Cooperation by the men who fire the coal is essential. After every mechanical preparation has been made to increase efficiency in utilizing coal, actual success very largely depends upon the firemen. They handle the coal. They can toss it on the fire heedlessly, or they can fire it with the care that is due its importance. One investigator reports that last year careless firing resulted in a waste of 10 percent of the steam coal used in seven states, and declared that five minutes daily of time of superintendents and managers, spent in persuading the men to be careful, would have saved millions of tons.

Wherever coal is fired by hand the interest and cooperation of the firemen must be enlisted. They must be impressed individually with the importance of their duties, and made to feel that they have personal recognition—that they perform an expert operation. This is a task for the owner or manager of the plant. He may frequently get great assistance by having his men attend courses of instruction for firemen, which are being organized by commercial organizations. He can also ask them to observe such rules as the following:

Fire Small Quantities of Coal Frequently; the quantity will vary with conditions, but with a free-burning fire and a grate 6 by 9 feet, the correct quantity will ordinarily be around 100 pounds—six to nine

shovelful; the intervals should not exceed 10 minutes and may be as small as 3 minutes.

Cover Only the Thin Spots; spread fresh coal where the flame shows rapid consumption, keep the fuel bed thin—4 to 8 inches, according to size of coal and force of draft—and so far as possible avoid raking.

Clean Fires When Clinkers Stop Draft; but if firing is done with efficiency cleaning will have to be done less often; when cleaning fires deal with one side and then the other.

Take Small Shovelful; it is much easier to place a small shovelful on the bright part of the fire than to distribute properly a large shovelful.

Stand Directly in Front of the Fire-Door, take a quick glance at the fire before each throw, learn to let the scoop rest on the lower edge of the fire-door at the end of each throw in such a manner as to have the coal slide freely and spread over the place for which it is intended.

Fire Surely but Rapidly, in order to get the door closed as quickly as possible and stop the intake of excess air over the fire.

Keep the Ash-Pit Door Open, in order to insure a proper flow of air up through the grate and the fuel bed, and keep the grate bars cool.

Regulate the Draft by the damper in the flue.

Keep the Ash-Pit Clear of Ashes, or there will be trouble with the grate bars and uneven burning of the fire.

Clean Flues Frequently, in order that accumulations of soot, ash, or scale may not interfere with transfer of heat.

These are merely a few elementary instructions for firemen. Most firemen will have done their part well if they carry a level fire of a definite thickness. The engineer or foreman has the responsibility of determining the conditions the fireman is to maintain.

As a means of obtaining cooperation from the whole force of men who are in a position to promote efficiency in utilization of coal, bonus systems have been devised. In some plants firemen have been paid a bonus for operating the boiler at its best rating; in one plant the bonus has been about \$6 a month for each fireman. In another large plant all the force, from the assistant chief engineer downward, participate in the bonus, which is half the value of the coal saved. In the first month the plant was in operation the bonus was over \$200, and meant an increase in wages of 10 percent.

Increase of efficiency among firemen will mean the largest aggregate saving that is possible, for firemen handle more of the country's coal than any other class of men. The importance of the fireman is recognized by the railways, and they are the largest users of coal; on November 25 the Railways' War Board asked every road to increase fuel economy by closer inspection of firing practice and by extending the use of superheated steam, feed-water heaters, and the like.

Any member of the National Chamber that wishes to distribute copies of this bulletin can obtain them by addressing the General Secretary, Riggs Building, Washington, D. C. Coal dealers who supply small plants should be in a very advantageous position to distribute copies to their customers.

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Communal Kitchens

"There ought to be communal kitchens everywhere," says a writer in a recent number of the *Lancet*, who goes on to enumerate a number of the advantages of the plan: "Their installment not only counts for a very material economy in fuel, but they reduce the hardships of the poorer amongst us, and where the system has been introduced the results have been admirable and greatly appreciated. The establishment of cooking centers for the coming winter would tide over a very trying season for a great body of hard and willing workers. Cafes and restaurants are practically barred to the majority of these, the charges made are beyond their means, and at a time when the energy and efficiency of the human machine are tasked more than ever the supply of good nourishing food is essential. As it is two or three sandwiches are trusted to

carry over the fatigued machine until the end of the day, whereas a communal kitchen would provide a means of cooking a substantial meal and give accommodation to partake of food under cheerful and comfortable surroundings. In some cases the communal kitchen may not have been organized on lines essential to success, but everything points to the scheme being a sound one, and when properly executed there is little question of the relief and comfort which such institutions will bring to many. Our local authorities have been so hard pressed with fresh duties occasioned by the war that here and there very little time has been given to the communal kitchen, but with the winter upon us we understand that the work is being vitalized. It is generally agreed that in regard to food supplies and other necessities we should be prepared for still harder times, and one important step would be to keep in healthy activity the communal kitchen, since it has proved to be a real help and blessing to many people. It can be run without financial loss, and the economy of fuel effected is, of course, an important matter, while the heavy expense of burning coal at home would be relieved. The communal kitchen, in fact, furnishes an excellent example of the benefits which a simple scheme of centralization can render the public."

The suggestion is an interesting one, and it would be desirable to know more about the working of these communal kitchens.

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Sugar-Saving in Hotels

Hotel men are now working out new ideas for the serving of sugar to meet the temporary shortage in Eastern States pending the arrival of western beet sugar and the Louisiana and Cuban cane crops. Study of this question has been beneficial, locating needless wastes. It has been found, for instance, that some guests fill their pockets from the sugar bowl. This is a habit with women, who like to feed sugar to horses if they can do it at somebody else's expense. Loose sugar is often spoiled through dipping with spoons taken from coffee and tea, and sugar served with meals sent to rooms is often wasted. The necessity for restricting guests to two or three lumps with each coffee service has reduced waste and shown that most persons are economical and reasonable in such matters. The hotel men find that they themselves have also been rather wasteful by listing too many sweet dishes on their menus, adding icing to dishes already sweet enough, and making up too many kinds of ice cream and pastry, which leads to a certain proportion being left over to spoil, where one or two kinds would give guests sufficient choice and make it easy to adjust supply to daily requirements.—Food Administration Bulletin.

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To Save Kitchen Utensils

Thirty manufacturers of kitchen utensils have issued an appeal to conserve pots and pans as much as possible on account of scarcity and cost of metals. Hotel men have responded by issuing the following suggestions to their kitchen employees:

- Don't heat foods in a pan without water.
- Don't use coarse scouring powders.
- Handle kitchen utensils with care.
- Soap and water are the most economical and easiest cleaners, also they are far less damaging to the hands.
- Buy shapes and sizes that can be used for many different purposes.
- Don't scrape pots and pans with sharp knives. Soak them instead.—Food Administration Bulletin.



ELECTRICAL WORK FOR THE SIGHTLESS*

Great Importance of the Double-Duty Finger Guild to Those Blinded in Battle—Work Also Adapted to Partly Crippled and Other Shut-Ins

BY A STAFF CORRESPONDENT OF THE MODERN HOSPITAL.

Never before have I attempted to write of the blind and their work with such feelings as those inspired by my long visit to the blind workroom at Ampere, N. J. Always before, I was overcome by the hopelessness, the pathetic struggles of the sightless; now, I find my sensations are entirely opposite. I feel cheered at what I have seen, and it seems as though I had discovered a new world in



Fig. 1. Dr. Wheeler teaching blind men to wind coils.

which these unfortunates have found their place and are able to face the future unafraid and without the least dependence on charity for their livelihood.

Second to this comes the realization of the immensity of the opportunity granted the blind, and particularly the sightless soldiers, to whom our debt is greatest.

To Dr. Schuyler S. Wheeler, president of the Crocker-Wheeler Company, electrical machinery manufacturers, is due the credit for discovering and launching this new em-

*Contributed after a careful investigation of the work being done by Dr. Schuyler S. Wheeler in Ampere, N. J.

ployment for the blind. For years he was interested in helping the sightless, and aided in several movements in that direction. It was not, however, until it became known that soldiers were being blinded in the war—that they were sacrificing their eyes on the altar of Liberty—that Dr. Wheeler plunged into the problem of caring for these heroes.

As he said, "They have given their all for us—we must give them all we can!" and with this feeling he went to



Fig. 2. Workroom of the Double-Duty Finger Guild in the plant of the Crocker-Wheeler Company, Ampere, N. J., where blind men and women are winding armature coils for electrical machinery. Photograph by Paul Thompson.

work. Intense by nature, heedless of obstacles, he let nothing stand in his way. The result is the Double-Duty Finger Guild, where the sightless learn to earn their own living, where they are made independent of charity, where they start life anew.

After several experiments, none of which promised economic independence to the sightless, Dr. Wheeler turned to his own business, that of electrical manufacturing. There he found the work on which the guild is



Fig. 3. An expert blind mechanic wrapping an armature coil with asbestos tape in the workshop for the blind at the electrical plant of the Crocker-Wheeler Company, Ampere, N. J. Photograph by Paul Thompson.

founded—a work that depends on nimble fingers and steady application. This is the winding of coils for armatures, these in turn being used in motors and dynamos. There is an ever-increasing demand for coils; they are an absolute necessity in electrical manufacturing—without them the most important electrical apparatus would be



Fig. 4. Blind men winding armature coils in the plant of the Crocker-Wheeler Company, Ampere, N. J. The photograph shows two forms of work they do—winding with mica strips and with white cotton tape. Photograph by Paul Thompson.

useless. This means that the blind men doing this work are successfully competing with "sighted" workers in an established industry and have attained financial independence.

Four months ago Dr. Wheeler founded the Double-Duty Finger Guild at 22 Park Avenue, Ampere, N. J., with several blind men sent there by the New Jersey Commission



Fig. 5. One of the expert blind mica winders on armature coils in the electrical machinery plant of the Crocker-Wheeler Company, Ampere, N. J. This man has been blind from birth, and, aside from caning chairs, has never been able to acquire a self-supporting trade until Dr. Schuyler S. Wheeler discovered this opportunity for him and his blind companions. Photograph by Paul Thompson.

for the Blind. These men were placed under a competent instructor and in a very few days showed that they could do the work acceptably and well. As soon as it was seen that they were proficient, others were added, so that now there are quite a number, among whom are four women. These latter have been blind for many years, and may be safely said to excel in the work.

Payment is for actual work done, the number of coils wound each week, or as it is better known, by the "piece-work" system, and it has been found that these sightless



Fig. 6. A woman worker who cannot see winding coils at a machine in the Double-Duty Finger Guild of the Crocker-Wheeler Company. Photograph by Paul Thompson.

are able to earn as much in eight hours as the "sighted" workers earn in five, after less than a month's practice. Gradually the blind workers are becoming more adept and their earnings are creeping upward, so that it is expected that the best of them will soon equal the average earnings of their "sighted" fellow-craftsmen. The most important fact is that *they now earn enough to keep themselves—to make them absolutely independent of charity!*

Think what this will mean to the sightless soldiers! They will be saved from the life-long horror of dependence and be able again to take their places in the industrial world.

In addition to the sightless, this work is admirably adapted to those who have lost the use of their lower limbs. All it requires is hands; even the bed-ridden could wind coils. It throws open a vast field of gainful occupation to even the most helpless. If they are unable to earn their own keep entirely, they could earn part and thus relieve their friends, relatives, or the state of part of the burden of their maintenance.

There is much human interest about this Double-Duty Finger Guild workroom. At first sight the most striking feature is the cheerfulness of the workers. They all seem to feel pride in their work, cheerfulness in regard to the future, and happiness that they are occupied in necessary

labor. There is none of the dreary hopelessness of the ordinary blind workroom; the whole atmosphere is inspiring. The industry of the workers is extraordinary; their nimble fingers are never idle, and the certainty of their handling of the coils and tapes is remarkable.

Now that the guild has been in operation for several months, several important developments have been noted. It seems that those who have been sightless for the shortest time and who have never been trained in any other kind of blind work make the best workmen. They have nothing to unlearn in the way of manual dexterity and can be taught more easily. The problem of teaching seemed to present great difficulties in the beginning, but it was soon found that most of these were imaginary. The instructor first familiarizes the workman with the shape of the coil, and then guides his fingers while he winds the tape about it. After the pupil winds it, the defects in his work are pointed out, and in a very short time he learns to do the work properly. Coils are of many shapes and are wound with various kinds of tapes, and the more advanced workmen now seem instinctively to use the correct tapes for



Fig. 7. Walter E. Baker, a Columbia graduate, blind for twenty-four years, who has learned to be self-supporting through coil-winding in the plant of the Crocker-Wheeler Company. Photograph by Paul Thompson.

the job in hand. Glue of great strength is used in several of the operations, and is usually applied with the finger tips; these sightless workmen handle it with the same certainty as the other materials and it is most unusual for them to misapply or spill the sticky fluid.

The superintendent of the workroom also informs me that the blind who have been recipients of charity for a long period make the worst workmen. To put this in her words, "the sightless that have been pampered" are the most inefficient. It seems, however, that they sooner or later enter into the rivalry of the "piece-work" system and try to make as much money as they can in the eight and one-half hours allowed each day. After several weeks, or

at most a month, these institutional blind place themselves on the same footing as the others and begin work with equal diligence.

The work of the guild is attracting much attention. Several organizations have sent workers to learn the art of winding coils, and these men are soon to be graduated. In addition, private individuals interested in the sightless have made arrangements to have men and women trained in the guild. An instance of this occurred a few days ago, when two manufacturers made arrangements for the training of one of their former employees who had lost his sight through paralysis. This man, who had been a shop foreman, is in the best of health, and has been grieving that he has become a dependent. Attempts were made to teach him various blind trades, such as basketry and chair-caning, but he had no interest in these because he knew that they were at least charity occupations. When he was told of the work of the guild and how its workers had been taught by Dr. Wheeler to become economically independent, he immediately communicated with his friend and undertook to join the guild workers.

Although Dr. Wheeler's work has become of national importance its greatest good to the blind will undoubtedly come through its international adoption. The Allies are facing the problem of caring for their war-blind, and the guild work offers them an ideal solution of this great responsibility. Sightless soldiers can be taught to wind coils and thus attain independence. Plans looking toward this are now under way and important developments are expected during the early months of the coming year.

To summarize, the work of the Double-Duty Finger Guild as established by Dr. Wheeler, it can be said that *it makes the sightless independent*, and it seems to be the only occupation that has done this for these unfortunates.

Poor and High-Priced Employees

There never was a time when it was so difficult to obtain competent domestics and other hospital help. This is due, of course, in large measure to the necessities of the war and the consequent high prices for labor in almost every field.

Most hospitals insist upon having young women in their domestic departments and the ablest-bodied men for domestic service; the older women and men who are physically or mentally handicapped in some direction seem not to be wanted. And yet there is no field in which old women and crippled men could do better than in hospital service, and it seems to us that the hospitals of the country could materially help "win the war" by readjusting their internal management so that the lame man, the man with one arm, and the older women who may have "rheumatics" or an occasional "lame back" can be pressed into service and paid the wages, with board, that hospitals can afford to pay. There are thousands of these handicapped and old people tramping the country looking for work, and while we are talking about "reeducation and helping the handicapped," and the utilization of the waste energy due to old age, let us make a start where it can properly be made and let the hospitals show the rest of the country that they can practice what they are preaching all the time.

An applicant for Poor Law relief was instructed that, as his plea was ill-health, he must first attend the hospital to obtain a diagnosis. "No, I don't," he replied. "I've 'eard as many 'as died of that disease!"—British Journal of Nursing.

CURRENT HOSPITAL LITERATURE

ALBERT ALLEMANN, M. D., Foreign Literature.
Army Medical Museum and Library, Office of the Surgeon-General
United States Army.

The Rochester Dental Dispensary. Bull. Rochester Med. Soc., 1917, III, No. 3.

This dental dispensary was opened May 9 of this year. The building and general furnishings are the gift of Mr. George Eastman, who also provided funds for the maintenance of the institution. All the children in the schools of Rochester who are unable to employ regular medical and dental practitioners will be admitted to this dispensary. The building consists of a main structure and two wings, having a frontage of 153 feet and a depth of 95 feet. Besides the Forsyth Infirmary in Boston this is the only institution of its kind in the United States.

A Plea for the Establishment of Standardized County General Hospitals. Frank G. Nifong, M. D. Jour. Missouri State Med. Assn., 1917, XIV, No. 8.

Dr. Nifong says that the present county hospitals of Missouri are merely misnamed poor farms. He calls attention to a law passed by the last general assembly of Missouri, making it possible for counties to vote bonds for the establishment and maintenance of county general hospitals. Such a hospital, he says, must almost of necessity be an open hospital, giving service to all legal practitioners, perhaps not even having a staff, or, if it has, serving only charity patients. He believes it possible to secure standardization and efficient management for such institutions through affiliation with the state medical school.

The Hospital Surgeon—His Economics and the Standardization of His Work. Warren L. Duffield, M. D., F. A. C. S. New York State Jour. Med., 1917, XVII, No. 8.

Dr. Duffield complains that the New York workmen's compensation law, which became effective July 1, 1914, works injustice to the hospital surgeon. Many insurance companies, he says, arbitrarily cut the surgeon's bill and evade and delay payment. The surgeon's only remedy is tedious litigation, and this, in one or two cases, has resulted in the disallowing of bills previously approved by the state industrial commission and the municipal courts. A more serious injustice is said to be perpetrated by insurance carriers in compelling injured employees to transfer themselves from the care of their family physicians to that of physicians in the employ of the companies, under threat of withholding compensation. Further, a ruling of the commissioner of charities, who controls the municipal hospitals, prohibits the surgeons of these institutions from accepting fees from patients. This Dr. Duffield regards not only as unjust, but also as contrary to the provisions of the compensation act. In view of the near approach of compulsory health insurance legislation, he suggests organization to solve the various problems involved.

The Isolation and Treatment of Discharged Tuberculous Soldiers in Paris. *Mesureur. Bull. Acad. méd., Paris, 1917, LXXVII, No. 24.*

Last year the city of Paris appropriated 5,300,000 francs (about \$1,060,000) for the erection of isolation pavilions at the various hospitals to receive discharged tuberculous soldiers. Ten of these pavilions have already been erected, containing in all 700 beds. At the end of this year, pavilions with 1,400 more beds will be completed. Some of these buildings are located in the suburbs of Paris. The material of a number of these pavilions is reinforced cement. They are considered indestructible. The cost is about 2,500 francs (\$500) per bed.

Opening of the Special Pavilion for Tuberculous Patients of the Municipal Hospital at Pallanza. *Tubercolosi, 1917, IX, No. 4.*

Though Pallanza is only a small city, it was found necessary to erect a special pavilion for tuberculous patients. The pavilion consists of a central structure and two wings. Only the central building has two stories. The first story contains a dispensary and a bacteriological laboratory. The second story is intended to receive children with tuberculosis of the bones and joints. A spacious veranda serves as a solarium. The left wing is devoted to adult female patients, the right wing to adult male patients. The whole structure is built of stone and has cement floors.

The Improvised Hospital Trains in France. *Riv. di ingegner. san., Milano, 1917, XIII, No. 11.*

The author complains about the insufficiency of the Italian hospital trains and shows how rapidly France improvised hospital trains by converting ordinary passenger cars into hospital cars. In the Italian trains, the stretchers are arranged parallel with the axis of the train; in the French car they are perpendicular to it. The third-class cars of the French railways, which have simple wooden seats, were selected for this purpose. The seats were not disturbed. Wooden supports were attached to the seats. The stretchers rest on and are fastened to these supports, each seat having two stretchers, one above the other.

The Leprosarium of Seville (Spain). *Rev. valenc. de ciencias med., 1917, XIX, March 10.*

This institution was established in the beginning of the thirteenth century by King Ferdinand. The hospital is situated in a beautiful region about two miles north of the city. A large part extends along the whole front of the hospital. The building is old and does not at all conform to the principles of modern hygiene, but hygienic measures are somewhat made easier by the great extent of the building, which is much too large for the limited number of patients. The average number of patients during the last few years was about thirty, two-thirds of whom were males. The male patients are strictly separated from the females. The attending personnel consists of a physician, two nurses, six sisters of charity, and a chaplain.

Artificial Feeding in Infant Asylums. *O. Viana. Rassegna d'ostet. e ginecol., Naples, 1917, XXVI, No. 5.*

The high mortality in Italian infant asylums is chiefly due to artificial feeding. Of this the statistics of the asylum at Verona are the best proof. During the years 1912-16, 2,570 infants were cared for. Of these 259, or 13.9 percent, died. Among the 2,570 babies, 345 had to be fed artificially on account of suspected syphilis or for other reasons, and of these 218 or 52 percent died. To remedy

this condition the author proposes to compel the mothers to feed their children at the breast during the first months of life. The infant asylum at Verona has already decided not to receive any more babies unless their mothers bind themselves to feed their children at their homes or to enter the hospital as wet-nurses.

The New Calcutta Eye Hospital. *F. P. Maynard. Indian Med. Gaz., Calcutta, 1917, LII, No. 7.*

This new hospital, which is under construction, is connected with the Medical College of Calcutta. As the ground is very expensive the building will have four stories. The ground floor will be devoted to out-patient work, the first floor to cataract and glaucoma cases. This floor contains beds for 46 Indian males, 36 females. The second floor is devoted to general eye diseases, including septic cases, and the third floor to quarters for the resident surgeon, while the fourth floor will contain the quarters of the resident staff. The first floor, containing the cataract and glaucoma department, will be strictly separated from the rest of the hospital.

Care of the Insane in the United States of America. *V. Parant. Ann. méd. psychol., 1917, LXXIII, January number.*

The author gives a short review of the work done in this country for the insane. During the last few years a great number of hospitals for the insane have been built and the old ones have been enlarged. This increase in hospital construction is chiefly due to the great increase of mental diseases. The article mentions especially the State Hospital Commission of New York, which, with its extensive powers, has accomplished a great work. All the state hospitals are under its supervision. Though it does not interfere with the autonomy of each hospital it exerts a powerful influence on the work of the various institutions. It has also codified the numerous laws relating to insanity, and in 1914 it succeeded in having passed a highly important law, which covers the whole field of the care of the insane in the state of New York.

Home Treatment Versus Sanatorium Treatment for Tuberculosis, With Some Observations on Climate. *W. O. Wilkes, M. D. Texas State Jour. Med., 1917, XIII, No. 8.*

Dr. Wilkes believes that the majority of all tuberculous patients may best be treated at home. In incipient cases, there is usually no menace to the health of other persons, particularly if the patient is taught sanitary principles. The patient enjoys more comfort at home, especially if sanatorium charges are likely to be a source of financial strain and worry, and in many cases the patient may continue his usual occupation while undergoing treatment at home. The majority of moderately advanced cases might benefit from education in sanatorium methods, but only two divisions of this moderately advanced class really require sanatorium treatment. These are the very poor, who cannot get the necessary abundant and nutritious food, rest, fresh air, etc., in their homes, and some unstable rich patients who cannot be controlled in their homes. Only one class of tuberculous patients, in Dr. Wilkes' opinion, should be in sanatoriums for the protection of the community and for their own comfort. These are the far-advanced cases, which are not accepted in most institutions.

Even in the meanest sorts of labour, the whole soul of a man is composed into a kind of real harmony the instant he begins to work.—Carlyle.



Operating Room Floor Dressing

To the Editor of THE MODERN HOSPITAL:

We should appreciate advice in regard to treatment of a dressing for our operating room floor, which is of plain cement.
A MINNESOTA HOSPITAL.

We believe that the best possible solution of your operating room floor problem is to lay battleship linoleum in terra cotta color. That color has no stain in it and will not fade, and if it is properly laid you will have the best operating floor that we know of. It is not quite so popular as yet with those who are still insisting on the "all-white" operating rooms, but we can promise that you will like the battleship linoleum, and if it is properly laid you can forget your floors for the next fifteen or twenty years. Everything is in the laying. Have your local merchant through whom you buy the linoleum send for double the amount of cement commonly used to attach the linoleum to the floors. Then you will take ordinary red building paper, cut out enough to fit the floor exactly without overlapping, then roll it out of the way, marking each piece so that you can place it again exactly where you cut it for. Then take a whitewash brush and put a sufficient coat of cement on the floor to cover completely the space to be occupied by one sheet of the building paper. Lay the building paper down over that cement, fitting it snugly, and continue in this way until you have entirely covered your floor with building paper, cemented to the concrete with the linoleum cement. Let this coat dry for two or three days, keeping people off the floor. Then take your 6-foot widths of battleship linoleum, which is one-fourth inch thick, lay it on the floor over the building paper, and cut it out snugly to fit the floor. If you can lay sandbags over it for two or three weeks so that it will stretch and adapt itself to the floor is over and the linoleum is settled and dried out, go over it again and trim the edges, because it will have stretched sufficiently under the sandbags to make it need trimming. Then remove this linoleum from the floor and out of the way and again take your whitewash brush with linoleum cement and put a good coat of it over the building paper that you have already laid. Then lay your linoleum over this cement and again put on your sandbags. After the linoleum has thoroughly dried; that is, in a week or ten days, have a careful person go over the floor with the cement, filling in the cracks between the widths and at the outer edges so that no water or fluids can settle underneath. If your baseboard is of wood and is not rounded at the bottom, you can take off the old quarter-round before you begin to lay your new linoleum and replace it on top of the linoleum. This will make a very excellent protection for the edges.

Some companies are now making a cement finish for rough concrete surfaces that will give you fairly good results. You will find some advertisements of these cement

finishes in the pages of THE MODERN HOSPITAL, and any of these advertisers will do what they advertise to do.

System Made Top-Heavy

To the Editor of THE MODERN HOSPITAL:

A member of our board has recently had a talk with one of the editors of THE MODERN HOSPITAL and he has reported to us that it is your opinion that the effort to install a system of good accounting can easily be overdone and that you warned him to go slow about installing a complicated technic for accounting for goods received and for their distribution.

Our trustees are thinking about putting in an elaborate system of accounting, involving the employment of a trained, high-salaried storekeeper. We are a hospital of 135 beds, with an average of about 100 patients. If THE MODERN HOSPITAL can give us some advice on our problem we shall be grateful.
A NORTHERN HOSPITAL.

It would hardly pay you to put in a system the administration of which would add an unavoidable expense far greater than any amount that could possibly be saved by having it.

We would have got down to some uniform standards of accounting and checking for hospital service long ago but for this one fact; there is no difficulty whatever about the establishment of entirely adequate checking systems; the only point is that most of them involve an expense entirely out of keeping with the results to be attained.

If our memory serves, your trustees told us you were about to install a business man as steward; we suggested that, in a hospital the size of yours, the superintendent ought to do the buying for the hospital. The amount of time and labor involved are not great and the superintendent is by all odds the best-informed person, or should be, to be charged with this highly important work. That is why we are insisting on the proper training of hospital administrators.

You can easily put in a system by which your housekeeper can attend to the details of purchasing the daily food supplies under the close personal direction of the superintendent. In our own work we have found that the housekeeper can do this very nicely if the superintendent will give her daily instructions and discuss the purchases with her every day. Then, when the purchase of an item comes along which is rather individual and out of the ordinary and which requires the finding of a new market or the getting of bids or arrangement for a better price, the superintendent can attend to that himself either over the phone or personally.

There must, of course, be a checking system for the receipt of goods, with invoices, and for their distribution in the hospital, all of which is rather a simple matter.

For the convenience of the superintendent and to make his work easier, a running inventory can be kept of the staples, except daily food supplies, so that the superintendent at any moment can look at this inventory, under any article, and find exactly what is on hand, when the last was bought, how much, from whom, and the price that was paid. This is best kept as a card index, alphabetically arranged by products.

As for a high-salaried storekeeper, we doubt whether such a luxury would pay you. What you most need is a systematic, dependable man or woman who will watch the corners, see that the employees do not get things except under the prescribed plan of distribution, and on a proper requisition, leaving a receipt, and who will properly check in goods received, make proper disposition of invoices and distribution requisitions and receipts, and who will keep the superintendent posted about the state of the stores

when items run low. In a hospital the size of yours, we would select for such a job a dependable woman of middle age; and we would not care so much about her higher education, if she had enough to enable her to figure a little and write plainly.

Construction Costs

To the Editor of THE MODERN HOSPITAL:

If possible for you to do so, we are asking if you would kindly furnish us with information regarding cost per cubic foot and cost per bed of a few of the recently built hospitals of about 400-bed capacity. Any information at all regarding the above will be greatly appreciated.

AN ARCHITECT.

We have no exact data at hand as to the per bed or cubic foot cost of hospital construction within recent months.

We can only say this: about 35 cents per cubic foot, or \$2,500 per bed, was about the average figure up to a year or eighteen months ago. Since that time the increase has been about 25 or 30 percent.

Of course, you know that the cost per bed or per cubic foot for the large hospital is higher than for the small hospital, and we think the proportionate increase for the large hospital has been greater than for the small institution, largely for the reason that we are dealing with structural steel construction and concrete, patent floorings, steel window and door frames, and the like, and in the small hospital we have not these expensive factors to consider.

School for Superintendents

To the Editor of THE MODERN HOSPITAL:

I am a registered nurse working as department head in one of our best hospitals. I have much to do with administrative matters, but I am woefully deficient in knowledge about many of our activities.

I want to qualify for the position of superintendent of a hospital, and I am writing to ask whether there is any school where administrative training is to be had.

A WESTERN WOMAN.

The Massachusetts General Hospital, of Boston; Bellevue, of New York; Grace Hospital, of Detroit; the Presbyterian of Chicago, among other hospitals, all give a good course to women. I believe only a limited number of students can be taken in any of these institutions, and you had better write to the superintendents. All these hospitals require pretty high qualifications in matriculants.

A correspondent sends to one of our British exchanges the following biblical quotations that he has met with in the course of his hospital duties:

Over a patient's bed: "O Lord, I am oppressed, undertake for me."

Over the bed of a patient suffering with severe anemia: "By your blood shall ye be saved."

On an egg sent as a gift: "Trust in the Lord."

On another egg: "She did her best."

The spirit of irreverence having been awakened in our correspondent by the foregoing, he recalls to our recollection the story of the gentleman who in a dripping state found instead of a towel in the bathroom a text, "The Lord will provide," but he had to dry himself with his pocket-handkerchief.

If a man look sharply and attentively, he shall see Fortune; for though she is blind, she is not invisible.—Bacon.

LETTERS TO THE EDITOR

"Plain Old-Fashioned Work" and the Delinquent Boy

To the Editor of THE MODERN HOSPITAL:

I have your letter before me and will endeavor to give you some of the information which you have asked me for. I owe you an apology for my apparent neglect in not attending to this matter sooner and can only offer as my excuse the threadbare one "press of business." The fact of the matter is, I have really had my hands more than full. I came into this position on July 1, this year, and when you figure that we have 500 boys in this institution and 49 officers, you may see that I have some job on my hands. I have been rattling around more or less like a peanut in a barrel, seeking the best course to follow, and have had but very little time for writing anything really interesting to people who are engaged in correctional work. However, I will do the best that I can.

You request a few words from me on "occupational therapy." My conception of the term "occupational therapy" is somewhat vague. If you were to ask me, in plain English, the plain question: "Do you think that WORK is beneficial to the average boy who is mentally, physically, and morally deficient?" I would know better how to answer you. For twenty years my personal contact has been with business people, representing during that time a wholesale house; in other words, I have been a "knight of the grip." It was not our practice to waste much time in preliminary skirmishing or to search Webster's Unabridged Dictionary for words, terms, and synonyms that the average mortal could not understand. "Occupational therapy" is too big a mouthful for me, but plain old-fashioned work and the good to be derived from it is something that I do claim to know something about.

The average boy who is sent to us is the boy who in the beginning did not have "a man's chance." Sometimes born of criminal parentage, very frequently born amid surroundings that are criminal and vicious, he follows "the easiest way"—in fact, the only way about which he knows anything—and as a result sooner or later the minions of the law swoop down upon him and he is sent to us branded, by a great many people at least, as a criminal. I find that whisky, criminal parentage, homes that are divided, selfishness, greed, lust, and other things that I might mention are very largely responsible for the average boy that is sent to us. He himself is simply the creature of circumstance, and is, I believe, in the eyes of Him that seeth all things, innocent of wrong intent. He is simply the sufferer from a system for which you and I and the other fellow are very largely responsible. When we realize, in fact, that we are "our brother's keeper," such conditions will not exist nor will boys be permitted to be born, bred, and reared amid such surroundings. In other words, my remedy is somewhat harsh, possibly in the eyes of a great many people unduly severe, it is to *stop raising criminals if you want to get rid of them*. If we would pay half as much attention to the breeding of our boys and girls as the farmer does to the hogs which he raises upon his place, I wouldn't have the job that I have today.

This condition exists, however, and must be met by the state. Now, the proposition is, how best to do this. Here in this institution we take the boy for what he should be worth, rather than for what he is actually worth, and, if we find out later that he is not what we supposed him to be, we make an effort to correct those tendencies which need correction. We offer him warm, comfortable housing, a clean bed, plain but substantial food, natural sur-

roundings that are as beautiful as any in the world, and we attempt by precept and example to influence him in the right way. In this we sometimes succeed, sometimes fail; possibly in the majority of the cases we fail.

Now, as to how we proceed to effect this reformation and as to the benefit to be derived from work. We do not as a rule try to take the boy from the city and make a farmer of him, neither do we take the boy from the farm and try to educate him along lines that would be useless to him on the farm. We try as far as possible to place each boy in the care of some officer proficient in certain lines—lines that seem as nearly as is possible to meet the demands of the boy in the case. We require during the summer months about eight hours of work, during the winter months about four and one-half hours, the other four and one-half hours during the winter time being spent in school.

In this school we have and teach the following trades and occupations: tailoring, patching and repairing, blacksmithing, carpentering, plumbing, steamfitting, stationary engineering, electrical engineering, firing, printing, brick-laying, painting, glazing, laundry work, cooking, baking, floriculture, horticulture, farming, gardening, teaming, and tree culture. In our schools we teach music; we also have a splendid band. Our grade school would, I think, compare favorably with the average public school up to the eighth grade. Boys who cannot read and write are required to attend school all day in the summer months when possible or when the press of work does not keep them out. The lad who is writing this article is one of the boys who has learned stenography in this institution and is now taking my dictation. We, of course, do not make all these occupations profitable in the sense that we make money out of them; in fact, very little attention has been paid to placing this institution upon either a self-sustaining or a profitable basis. Rather our efforts have been directed toward reclaiming the boy if it were possible to do so, and toward giving him some special training during his stay here that would enable him to go out in the world and hold his own. During the past three or four months we have practiced our belief in keeping him busy; we have crowded every day full with work, play, and the necessary rest, laying special stress upon the work. As a result we have been able to remit to our state treasury during the month of July the sum of \$1,700; during the month of August about \$1,800; during the month of September about \$2,400; and for the month of October our remittance will be in excess of \$4,500, so that our lads are not only keeping busy, but they are making money for the state of Missouri, in a measure at least, paying for their keep. Our boys are apparently very much interested in the work which they have been doing, more so now possibly than ever before, because under the present management we are giving each boy 33½ percent of his gross earnings. This is credited to him as an account in the Missouri Reformatory Bank. When he earns a dollar it is deposited to his credit; a deposit slip is made out in his favor, and a corresponding entry is made upon his bank book. When he requires money for certain purposes he is permitted to draw a check against this bank; this check when presented to the bank is paid, and, if the boy's record has been good and he has not received reports, he is permitted to visit the town of Boonville on Saturday afternoons, under the supervision of an officer, and spend this money himself. In the past he has been compelled to write an order for what he might wish and to take what some disinterested person might buy for him. The boys seem to enjoy spending their own money.

Work as a remedial agency is, in my opinion, the most valuable thing that we can offer a boy. Some of them, of course, do not like it, and, after working with them a short time, one can easily imagine why: infected with disease, weakened by months and years of doing nothing, sleeping in cramped quarters, where fresh air is unknown, eating poorly prepared food, possibly sometimes not eating at all, the boy has lost what little energy he might have had, so that at first we needs must be kindly disposed and somewhat lenient. Under the influence of our system of early to bed and early to rise, with plain, wholesome food, this condition soon begins to disappear. The boy's face becomes ruddy, his hollow cheeks are filled out, the poison of the cigaret is driven from his system, sleepless nights give way to peaceful, restful ones, energy, which has been driven from his system, begins to show itself, and the boy first becomes interested in playing, then he begins to show an interest in work, and soon he is vigorously attacking work that would make an older man wince, and very frequently, to use the expression of the boys themselves, "he eats it up." To the boy who possibly has never earned an honest dollar in his life, our training here offers the opportunity not only to make a living, but to make more than average wages. Our printers, painters, blacksmiths, carpenters, etc., acquire at least the rudiments of these various trades, and are in a position, should they so choose, to command more than a laborer's wage upon their release from this institution; so it may be with the boys who are in our other departments. The benefit of this work is twofold: it keeps the boy's mind busy, and it keeps him from those things that are devilish and mean; it strengthens his muscles and teaches him to plan and to think, and creates in the course of the day that tired feeling that can be displaced only by a sweet, refreshing sleep.

I hold to the theory that any boy who works, even if he is vicious, will ultimately redeem himself; the boy who will not work and is inclined to be vicious has a slim chance. Work is wholesome, work is honorable, work is what the Master put us here for. I try to teach our boys to regard it in this light. Our workers are our best boys; it is they whom we can trust and in whom we can place our confidence. During the four months that I have been in this institution I have tried in every way possible to inculcate in the spirit and mind of each boy a high regard for honor; I have told the boys that one who accepts a confidence and does not betray it was a man that could be honored and looked up to; as far as possible I have tried to put this into practice.

Our boys are now working without supervision so far as an officer is concerned, not only in this institution and within its confines, but also in the town of Boonville and in the surrounding country. We have tried to "do our bit" in a patriotic way by going out into the surrounding country and helping the farmers to save their crops. Even now, within the short time that I have been here, I have from six to eight boys, splendid fellows, who are out in the homes of our farmers working every day, earning an honest living, doing splendidly, and giving great promise of ultimately overcoming their shortcomings and developing into the men that God intended them to be. We trust them as far as possible. Each boy, so far, has measured up to the standard which we set for them, and each boy is making the effort of his life to overcome the evil which has pulled him down and which had caused his downfall. I may be wrong or I may be visionary, but I cannot help but believe that these boys will work out their own salvation, and, when this shall have been accomplished, I firmly be-

lieve that the answer to the question what influence, more directly than any other one thing, helped to bring about this condition, can be expressed in one little word of four letters, namely, WORK.

You ask me to say something about our industrial occupations. In our printing shop we print a little magazine, a sample copy of which I am sending you. In our boiler rooms, boys are taught firing, steamfitting, stationary engineering, electrical engineering, and how to install electrical fixtures. In our greenhouses and on our lawns boys are not only given the benefit of the fresh air, but they are taught to appreciate nature in all its beauty. Our lawns are covered with beautiful flowers and magnificent shade trees; our institution is situated in the famed bluegrass region of Missouri. In our greenhouses we propagate the flowers which are used to beautify our lawns; we also raise great quantities of flowers which are sold on the open market, as well as being used to decorate school rooms, dining rooms, sick rooms at the hospital, etc. We raise about seventy-five acres of garden, not only supplying this institution with a great abundance of green vegetables, but leaving a sufficient quantity to can quite a bit for our winter use. For instance, this year we have canned 15,000 quarts of beans (dried and green), cabbage, beets, corn, etc. In addition to this we have for our winter use several barrels of sweet corn packed in brine. We now have in our cellars thirty-six barrels of kraut; we have great quantities of strawberry preserves, grape marmalade, grape juice, apple butter, etc. Our orchard, which is not a large one, has this year produced approximately \$3,000 worth of apples, enough for us to sell a carload, besides local sales of approximately \$700 worth, which have been sold and for which we have been paid, leaving an ample supply to furnish each boy with apples each day during the winter months. I might add in connection that we do not sell the good apples and keep the defective ones, but rather we sell the defective ones and keep the good ones.

Our farm is composed of 540 acres. Our land produces wheat, corn, hay, etc., enough for our domestic consumption, with some to sell. While it furnishes healthful occupation for a number of boys, it is entirely too small for our use, and we have arranged for the coming year to rent 250 acres of land which, in addition to the 540 which we own, make a total of 790 acres under cultivation. All of this work will be done by our boys. They take not only a great interest and pride in it, but this year at least they feel that it is their duty to help produce just as much as they possibly can, so that the boys in France will not lack for food. We have large dairy barns and milk a herd of from thirty to forty cows, which supply us with milk, cream, and butter for our domestic consumption. There are now standing upon our grounds twenty-one buildings exclusive of the administration building. These twenty-one buildings are built from brick made by our boys in our brick yard and laid by our own bricklayers; the carpenter work was done by our boys in our carpenter shop. In other words, every building upon these grounds, with the exception of the main or administration building, was erected by boy labor from start to finish. Our plumbing, under the direction of a competent plumber, is installed by boy labor, not only furnishing a healthful occupation for the boys, but teaching them a valuable trade as well. So it is with the other trades, which I have mentioned above.

Lack of time and space will prevent me from going into greater detail. This institution is built around a system of which work is an important part. Our institution is not self-sustaining, but could be made so by intelligent man-

agement. We are rapidly reducing the per-capita cost, however, and expect within a very few years to make a showing along this line. The one thing that will enable us to make this showing is work, intelligent work. I might add that down here, in "old Mizzoo," we believe in work, not only as a remedial agency, but as something necessary to man's salvation. The Good Book decrees that we shall live by the sweat of our brow, and, like the old-time preacher, I believe everything in that book from "kiver to kiver."

A. G. BLAKEY,

Superintendent, Missouri Reformatory, Boonville, Mo.

Mr. Bott Not Responsible for Article in November Issue

To the Editor of THE MODERN HOSPITAL:

On page 365 of the November number of THE MODERN HOSPITAL you publish an article under the title of "Functional Training," which you attribute to me. I beg to say that I have had nothing whatever to do with the article in question. Moreover, your inaccuracy extends to your editorial footnote, as the said article is neither in whole or in part a reprint from the University of Toronto Monthly. I trust that in your next issue you will right this error as far as possible.

E. A. BOTT.

NOTE.—This error has been called to our attention by the Publicity Department of the Military Hospitals Commission of Canada also. It arose through the accidental carrying over from the October to the November installment of a heading and footnote which should have been used only in October.

EDITOR.

Keep Books on Yourself

The vast majority of the hospitals of this country are groping in the dark. They do not know what they are doing. In the industrial world, owners of manufactories and producers in every field are employing experts to go into their institutions and give them a survey of their cost accounting and suggestions that will enable them to practice greater economy. Unfortunately, there are very few efficiency engineers in the hospital field whose work is of any value whatever, and superintendents are, as a rule, thrown upon their own resources in the matters of efficiency and economies.

In order to economize, that is, to practice economies that are of definite value, one must know just what he is doing at the present time, how he is doing it, and the results he is obtaining. Hospital superintendents are, as a rule, disposed to frown upon any system that requires work or study, on the ground that they cannot afford the expense. If our industrial organizations took this point of view, this country would be behind the whole world in experts and in general business success. We think that hospitals can profit just as much by careful analyses of what they are doing and what it is costing to do it as any business organization.

A few hospitals here and there are beginning to wake up in this regard and to put in the machinery by which they may know just what their institution is doing, what all its departments are doing, what it is costing to do it, and how they can do it cheaper and better. We must have more of this.

Perhaps the most important requisite for the industrial nurse is wisdom, therefore we would advise the very young woman to delay entering this particular field of work until experience has somewhat ripened her judgment. She will need to steer a very careful course between the maintenance of a sympathetic and watchful attitude toward the employees and one which will partake of the nature of coddling.—Mary S. Gardner, "Public Health Nursing."



VINCENZ MUELLER, Technical Editor.
GEO. W. WALLERICH, Associate Editor.

Please address items of news and inquiries regarding New Instruments and Appliances to the editor of this department, 327 Southeast avenue, Oak Park, Illinois.

Forceps for Controlling Hemorrhage after Enucleation of Tonsils

BY DR. J. Z. BERGERON, Chicago.

So many new tonsil instruments have been presented to the profession during the last few years for the purpose of enucleating the tonsils with the capsule intact, that it must be rather difficult, for the beginner at least, to make a choice from all the instruments recommended, each one of which, according to the inventor, is the best for the purpose.

It is a fact, however, that, in spite of the claims that may be made for one instrument or another that its use will prevent hemorrhage from occurring after enucleation, this will occur now and then, no matter what instru-



Fig. 1. Bergeron gooseneck pillar compression forceps.

ments may have been used in the operation. For the purpose of arresting hemorrhages promptly and effectively, several devices have been invented, such as clamps with specially shaped pads to fit into the tonsillar cavity, to be left in position for hours afterward if necessary. Serious objections have been raised against this procedure, as well as against the use of metal suture clips, etc., on account of the trauma which is produced and other unpleasant after-effects. In order to reduce these disagreeable after-effects to a minimum and to stop tonsillar hemorrhage promptly and effectively, Dr. Bergeron had the pillar compression forceps constructed, which are illustrated in Figs. 1 and 4. The instrument (Fig. 1) is used to squeeze the

pillars together over the tonsillar fossa (Fig. 2) after the tonsil has been enucleated. The gooseneck shank is so constructed as to keep the handles outside of the cheek while the forceps are in place. The compression is made by two corrugated tips flanging slightly at the end, thus



Fig. 2. Bergeron straight pillar compression forceps.

better regulating the degree of pressure exerted over the pillars. The size of the compression tips is $\frac{1}{8} \times \frac{3}{8}$ inch. Dr. Bergeron advises that the instrument should be used in the following manner:

After one tonsil is removed, the curved compression forceps are applied high up in order to compress the ves-

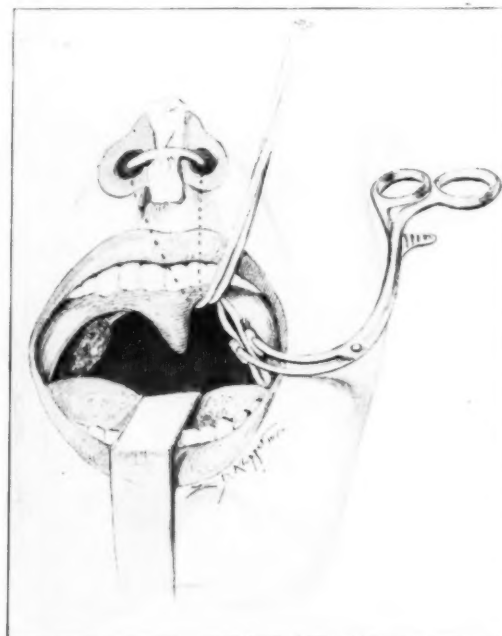


Fig. 3. Curved pillar compression forceps in position and out of the way of operator.

sels in that area of the tonsillar fossa, the posterior blade being against the posterior surface of the posterior pillar, while the anterior blade will fit against the surface of the anterior pillar. The most important point is to pass the compression forceps to a sufficient distance to-

ward the lateral wall of the throat, so as to include in the bite that portion of the posterior pillar which is next to the constrictor of the pharynx, the floor of the tonsillar fossa, and that portion of the anterior pillar next to the mucosa of the cheek.

If bleeding occurs from the bottom of the fossa, the straight forceps (Fig. 4), which are made on the same principle as Fig. 1, except that the shanks are straight, are applied over the lower portion of the fossa. After a few moments the forceps can be removed or left on until the opposite tonsil or adenoid tissue is removed. The

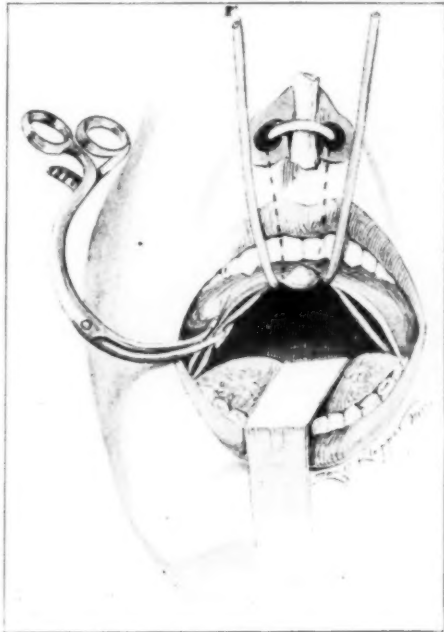


Fig. 4. Both tonsils removed, forceps in situ and ready for removal of adenoids.

same results can be obtained in controlling a secondary hemorrhage, and a factor of great importance is that the pillars are in no way injured by the force of the compression, so that, in case it should be necessary to introduce a suture or two for the purpose of obtaining a more prolonged compression of the fossa, this can be done without the fear of their tearing out because of previous interference with the vitality of the tissue.

Every surgeon who has performed many tonsillectomies has had the unpleasant experience of being called from his bed to care for a post-operative hemorrhage. We are reliably informed that by the use of these forceps a number of such hemorrhages have been promptly arrested by the house surgeons at the hospitals without having to call on the surgeon for assistance.

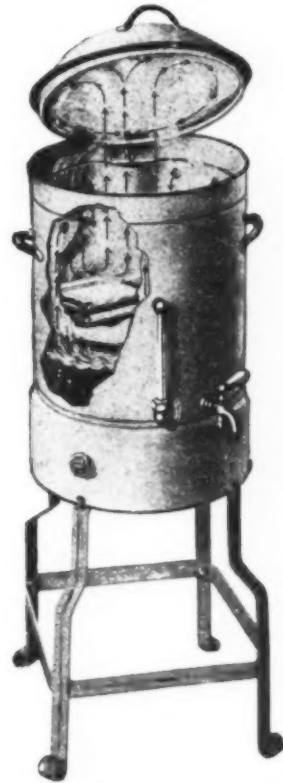
This fact, more than any other, has induced us to bring these instruments to the attention of hospital authorities.

The Gem Sterilizer

Once in a blue moon a new idea for the reduction of labor and expense is offered for the consideration of hospital superintendents. The wringing of boiling water out of hot packs is one of the unpleasant jobs the nurse has to contend with. The old method of preparing hot packs and stupes, all too prevalent in the average hospital, is being superseded by a little machine which has proved to be a big time-saver for the nurse, and, therefore, at a small investment, the superintendent is enabled to reduce his overhead expense, and, in addition to that, he is able to give better service to the patients because the hot pack

from the Gem is always ready for instant use, and the patient does not have to wait for the nurse to heat the water and wring out the pack.

By a patented device the condensed steam is taken care of in the cover, and the packs are removed with exactly the same amount of moisture that they contained when placed in the machine, no more and no less. The temper-



Gem sterilizer for gauze dressings and hot packs.

ature of 212 F. is always present, and the packs are unquestionably sanitary, and, being freer from moisture than the hand-prepared pack, the patient can stand greater heat, and will receive, therefore, a greater degree of relief. The packs are steamed, have plenty of heat, and yet are not water soaked.

A number of hospitals have adopted this sterilizer for their personal use in taking care of their gauzes, blankets, glass tubes, etc.

BOOKS RECEIVED FOR REVIEW

Impotence and Sterility with Aberrations of the Sexual Function and Sex-Gland Implantation. By G. Frank Lydston, M. D., D. C. L. Pp. 333. Cloth, price \$4 net. The Riverton Press, Chicago, 1917.

Mental Adjustments. By Frederic Lyman Wells. Pp. 331. Cloth, price \$2.50 net. D. Appleton & Company, New York, 1917.

A Thousand Health Questions Answered. By J. H. Kellogg, M. D., LL. D. Pp. 775. Cloth, price \$2.50. Good Health Publishing Company, Battle Creek, Mich., 1917.

Surgical Nursing in War. By Elizabeth R. Bundy, M. D., Member of the Medical Staff, Woman's Hospital, Philadelphia, etc. Pp. 184, with 37 illustrations. Cloth, price 75 cents net. P. Blakiston's Son Company, Philadelphia, 1917.

Re-Education. An Analysis of the Institutional System of the United States. By George Edward Barton, A. I. A., Director of Consolation House, President of the National Society for the Promotion of Occupational Therapy. Pp. 119. Cloth, price \$1 net. Houghton Mifflin Company, Boston, 1917.

A NUTRITION CAMP FOR BOYS*

Defective Nutrition in Many New York School Children—
Results Obtained in a Boys' Camp

An examination of 221,708 New York school children, made in 1915 by school doctors using the Dunfermline scale for marking nutrition, showed defective nutrition in 22,916, or 10.34 percent, writes Edward F. Brown in the *Journal of the Outdoor Life*. In order to find out what effect fresh air, suitable food, exercise, bathing, etc., would have on these children, the New York Association for Improving the Condition of the Poor, in cooperation with the

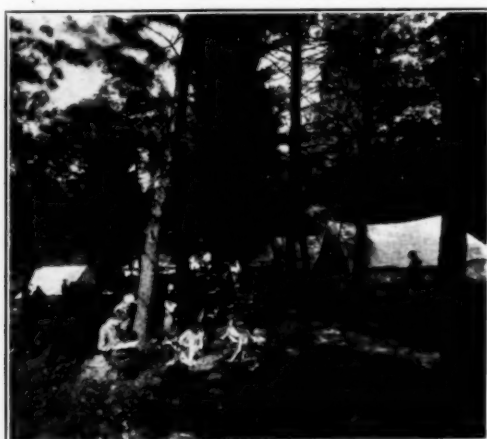


Fig. 1. The land of boy-builders.

New York *Globe*, developed and maintained a camp for boys between 10 and 14 years of age, at Southfields, N. Y. Mr. Brown, who is superintendent of the Bureau of Welfare of School Children of the society just mentioned, describes the work done at the camp and the results obtained up to the time the camp closed (September 16, 1916).

The camp opened July 1. It is on a tract of land owned jointly by the states of New York and New Jersey. A



Fig. 2. Weighing the boys to see that any needed individual attention is given.

large pavilion was erected for a mess-hall. The boys slept in open tents.

Twenty-four days was the average time spent at the camp by 428 boys. Of these 100 were segregated for the purposes of the experiment. The records of 12 boys are not complete, and the data obtained are based on 88 boys.

All the children received three substantial meals daily, and milk and whole-wheat crackers in the middle of the morning. Whole-wheat bread was used exclusively. No

coffee was provided. The attempt was made to provide a diet not only adequate, but also balanced.

Reveille was sounded at 7 a. m., and the boys immediately raised the sides of their tents and set their cots and blankets out in the sun and air. Twenty minutes later came the signal for a setting-up drill of five minutes, followed by a dip in the lake or a washing up. At 7:45 mess-call summoned the boys to breakfast, after which they replaced their cots and tidied up their tents and the surrounding ground. Swimming and boating were in order when assembly-call sounded at 10 a. m. (Most of the boys—80 or 90 percent—could not swim on arrival at the camp. Practically all—over 95 percent—could swim on their return to the city.) Fishing, rowing, games, hiking, etc., followed the bathing period until 11:45, when milk and crackers were served. After the noon dinner, rest for one hour was compulsory. For the rest of the afternoon the



Fig. 3. Not really sleeping—but this is the way they slept.

boys were allowed either to join in some diversion planned ahead for them or to follow their own inclinations until supper at 6. At 7:15 the evening camp-fire was lit, and around it stories were told and songs sung. Taps sounded at 9.

The boys were weighed when they first came to camp and at intervals of from five to nine days thereafter. The average daily gain in weight was three and one-half times as much as the normal increase to be expected from boys of this age. The hemoglobin showed an average gain of 6 percent by the Sahli test and 4 percent by the Tallquist. There was an average increase of 9 percent in the red blood corpuscles for each child.

Exclusive of executive and administrative salaries, the total cost of the experiment was \$9,113. This makes an average of 84 cents a day for each boy.

The official Institution Quarterly of Illinois announces that the Department of Public Welfare has authorized the Psychopathic Institute to employ Mrs. Eleanor Slagle as superintendent of occupations in the state hospitals. Mrs. Slagle is one of the best-known women in this line in the whole country. She has been trained in Phipps and Boston Psychopathic institutes and has worked in several states. Her duties will be to organize industries in the various institutions, and to instruct attendants and nurses in the wards in the art of stimulating the interest of patients in work of one kind or another. There has been great need for this type of organization, and the employment of Mrs. Slagle is a distinct advance in Illinois.

Self-trust is the first secret of success—Emerson.

*The illustrations used herewith are shown by courtesy of the *Journal of the Outdoor Life*.

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CLOSING OF FORMS.—Advertising forms close on the 10th for the issue of the following month. Ample time should be allowed for composition of advertisements and the sending and return of proofs.

ADVERTISING RATES.—Advertising rates will be sent on request.

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ILLUSTRATIONS.—Such half-tones and zinc etchings as in the judgment of the Editors are necessary to illustrate articles will be furnished when photographs, drawings, or ink tracings are supplied by the author.

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NEWS OF THE HOSPITAL FIELD

Eastern States

Flower hospital, New York City, has unfurled a service flag carrying 120 stars.

St. Timothy's Hospital, Philadelphia, launched a campaign in December to raise \$50,000.

Dr. Jason Parker has resigned the superintendency of the Jones General Hospital, Jamestown, N. Y.

Construction work is under way on a \$60,000 annex to the West Chester Homeopathic Hospital, West Chester, Pa.

A tuberculosis hospital, erected at Elmira, N. Y., by Chemung County, at a cost of \$40,000, is being equipped and will shortly be ready for patients.

St. Joseph's Hospital, Lancaster, Pa., has purchased a large residence adjacent to the hospital grounds and will fit it up in the spring as a nurses' home.

Miss Marie Herter has resigned the position of night superintendent at the Allentown (Pa.) Hospital and is taking a rest at the home of her parents at Mountville, Pa.

The constitution of the state of Massachusetts has been amended to prohibit the granting of state aid to privately controlled schools, hospitals, charitable organizations, or religious institutions.

A 10-bed isolation hospital has recently been completed for the state tuberculosis sanatorium at Norwich, Conn., and sites are being considered for an additional unit to the hospital proper, to be erected at a cost of \$20,000.

Dr. Hiram L. Horsman, Worcester, Mass., has been appointed acting superintendent of the Grafton (Mass.) State Hospital, succeeding Dr. James V. May, who resigned to become superintendent of the Boston State Hospital.

A campaign was launched by the West Jersey Homeopathic Hospital, Camden, N. J., December 5, to raise \$100,000, which the institution will use to liquidate its indebtedness and to add a new department for war emergency work.

Miss Emily Jones, former superintendent of nurses at the Rochester General Hospital, Rochester, N. Y., who has been in France for a year with Dr. Ralph Fitch's hospital, has lately been made chief of the nursing staff of the Red Cross Hospital 4, in Paris.

By the will of the late Ettie Greenbaum, daughter of Wolf and Hannah Greenbaum, also deceased, the Hebrew Hospital and Asylum, of Baltimore, will receive approximately \$50,000 for the erection of a building to be known as the Wolf and Hannah Greenbaum Memorial.

Four Brooklyn hospitals will receive \$30,000 from the estate of the late Alexander H. Anderson, of that borough. St. John's Hospital is to get \$5,000; Long Island College Hospital, \$5,000; Methodist Episcopal Hospital, \$10,000; and the Brooklyn Home for Consumptives, \$10,000.

Increasing demands upon the Zion Hospital, opened at 2140 Croysey avenue, Brooklyn, N. Y., in the fall of 1915, makes larger quarters imperative, according to the Brooklyn Citizen, and plans are being made for a new, modern building, which it is expected will be ready for occupancy within a year.

The executive committee of the Association for the Prevention and Relief of Heart Disease announces that owing to the fact that all of its physician members, with one exception, are in the service of the government in the Medi-



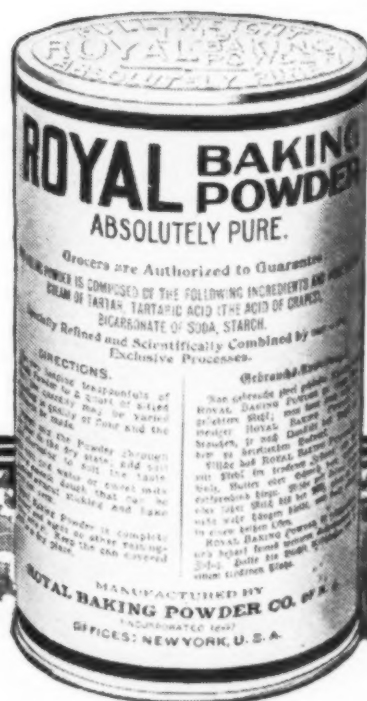
Digestibility

There are many kinds of delicious breadstuffs—dainty muffins, hot gems, fluffy biscuits—craved by the convalescent in place of cold bread or toast. To deny the patient these is often an erroneous, a mistaken, policy. These delicacies, properly made, are almost always more tempting to the palate and more gratefully received than cold food. This fact itself is conducive to digestion. When made with

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such breadstuffs are light and delicate, healthful and nutritious; they are digestible. That is because Royal Baking Powder is made from cream of tartar derived from grapes and adds none but healthful qualities to the food.

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Sheffield Scientific School, Yale University,

New Haven.

Octavo, 226 Pages. Full Cloth Binding

Price, \$2.00

MODERN HOSPITAL readers will recall the extended series of very instructive papers on "Feeding the Hospital," written by Miss Graves and published in this journal last year. Because of their exceptionally meritorious character these papers attracted much attention and were adopted by a number of the leading schools of nursing as a part of their course of instruction. As a result of a continued and increasing demand for the papers after the numbers of THE MODERN HOSPITAL containing them could no longer be supplied, and with much encouragement from prominent training school superintendents and instructors, Miss Graves was induced to revise the entire series of papers and elaborate on it with the view of meeting the need felt by many for a standard text-book for student nurses on the important subject of dietetics. It is believed that the book will also prove valuable to graduate nurses, dietitians, hospital superintendents, and the medical profession for reference purposes. A descriptive circular outlining the contents of the book will be mailed on request.

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To encourage the use of this new book, which it is felt will make for greater efficiency in the training of nurses and ultimately in hospital service, a very substantial discount will be allowed on orders in quantity for instruction purposes. A copy of the book will be sent postpaid to any training school superintendent for examination.

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SAINT LOUIS

cal Reserve Corps, or in the Red Cross, it has been decided to discontinue the investigations and educational propaganda of the association for the duration of the war, and the executive office at 340 East 26th street, New York, has been closed. Response to inquiries will be made through the office of Dr. Haven Emerson, 120 East 62d street, who will act on behalf of the secretary of the association and the executive secretary during their absence.

Forty trees were planted recently at the Jewish Home for Consumptives, near Reistertown, Md., as memorials to 40 patients who have died at the home within the last year. Memorial tree planting is an annual custom at this institution, and the many varieties of trees put out on these occasions now form a beautiful grove.

At the third annual conference of the Associated Charities and Corrections of West Virginia, held at Fairmont December 3, Governor John J. Cornwell urged that the West Virginia state hospitals be placed under the control of a single administrative board, such as exists in New York, Ohio, Illinois, Minnesota, Iowa, and other states.

Mrs. Elenore R. Faunce, who assumed the duties of superintendent of nurses at the Passavant Hospital, in Pittsburgh, October 1, is an advocate of more thorough instruction in chemistry for nurses in training, and has succeeded in having a class of nurses from the Passavant taken into the Pittsburgh high school for the chemistry course.

A gift of a 40-room residence from Mr. and Mrs. Costello C. Converse to the Malden City Hospital, Malden, Mass., for a maternity annex, has been accepted by the hospital trustees, who will appropriate \$8,000 for the necessary alterations. The building was the home of the late Col. Harry E. Converse, and is surrounded by spacious grounds.

Every large manufacturing establishment engaged in work for the government is soon to have a fully equipped emergency hospital, if the plans of the industrial committee of the Council of National Defense are carried out. Steps in this direction were taken at a meeting of the committee held in New York December 1 and presided over by Dr. William Evans.

Miss Viola Rogers, 30 years old, formerly superintendent of a private sanatorium at Troy, N. Y., where she was active in nursing societies, died November 25 in Bellevue Hospital, New York City, of pneumonia. Miss Rogers went to New York recently to take a post-graduate nursing course. She was a native of Englishtown, N. J., and the body was taken to that place for interment.

Dr. Donald Baxter, formerly of THE MODERN HOSPITAL, and more recently associated with the Rockefeller Foundation as director of the after-care and treatment of infantile paralysis cases in New York City, has been commissioned to organize hospitals for the care of the children of France, under the auspices of the American Red Cross. He sailed December 6, and is located at the Place de la Concorde, Paris.

The City Hospital Commission, of Providence, R. I., at the request of the local board of aldermen, has mapped out a plan for enlarging the Providence City Hospital so that it may receive general cases in addition to caring for patients suffering from contagious diseases, as at present. The plan contemplates an ultimate expenditure of \$1,250,000, but it is not expected that construction work will be started for a year or more.

A new hospital, erected at a cost of \$250,000, has recently been opened by the Greenwich Hospital Association, Greenwich, Conn. The building is a gift to the city from Commodore E. C. Benedict. It replaces the Greenwich General Hospital, and will be operated in connection with the Nathaniel Witherell Memorial Tuberculosis Pavilion. Endowments amounting to \$90,000 have been transferred to the new organization.

The supervisors of Broome County, N. Y., have had plans drawn for a \$140,000 tuberculosis hospital to be erected at Chenango Bridge next spring. The construction will be of hollow tile and stucco, and the plant will consist of an administration building, a pavilion each for male and female patients, and a garage, with quarters



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So we took a famous wheat dainty—Pettijohn's—and made a bran food of it. Now these flavory flakes hide 25 percent unground bran.

When we announced it, thousands of physicians wrote us for samples of it. And now people are serving about a million dishes weekly, largely by doctors' advice.

We believe that Pettijohn's Flakes and Pettijohn's Flour will solve the bran-food problem to your satisfaction.

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Rolled Wheat with Bran Flakes

Soft, flavory wheat rolled into luscious flakes, hiding 25 percent of unground bran. A famous breakfast dainty. Pettijohn's Flour is 75 percent

fine patent flour mixed with 25 percent tender bran flakes. To be used like Graham flour in any recipe: but better, because the bran is unground.

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above for male employees. One hundred patients will be accommodated.

Surgeon-General Gorgas has announced that a military receiving hospital from which wounded American soldiers will be distributed to the proposed rehabilitation hospitals in various parts of the country, will be built at Fox Hills, on Staten Island, New York City. The receiving hospital will have a capacity of from 1,500 to 2,500 beds and will be located near enough to the quarantine station to make possible the transfer of the wounded with a minimum of delay.

The new Broad Street Hospital, New York City, which has recently opened a \$270,000 main building, is now seeking funds to erect a nurses' home and a pavilion for private patients. In the first month that the new hospital was in operation, 150 bed patients were admitted, 2,850 treatments were given by the dispensary, 193 ambulance calls were made, 270 x-ray pictures were taken, and over 100 major operations performed, according to a statement issued in November.

Dr. Israel C. Jones, for 41 years medical superintendent of the Home for Incurables, One Hundred and Eighty-third street and Third avenue, New York City, died at the home December 6. Dr. Jones was a member of the American Hospital Association, the New York Academy of Medicine, the County Medical Society, the Bronx Medical Society, and the New York Physicians' Mutual Aid Association. He was a native of Connecticut, but received his early medical education at the Miami Medical College, in Cincinnati, graduating from that institution in 1874.

A new modern plant for the Salem Hospital, Salem, Mass., consisting of a large main building, three stories high, a two-story service building, and an operating pavilion, all fireproof structures, was opened December 1. The new hospital represents an expenditure of \$250,000. It has accommodations for 134 patients, including 20 in private rooms, 19 maternity cases, and 11 children. The Salem Hospital was established in 1874 and its old buildings were destroyed by the disastrous fire that swept through a large section of the city in 1914.

Middle Western States

Dr. O. P. Harris is building a 16-room private hospital at Mendota, Ill.

Dr. M. M. Hurst, of Grand Rapids, Minn., is opening a private hospital at that place.

A \$35,000 hospital has recently been completed at Grand Rapids, Mich., by Kent County.

A \$50,000 bond issue has been voted at Bartlesville, Okla., for the erection of a municipal hospital.

The city of Okmulgee, Okla., has awarded a contract for the erection of a municipal hospital to cost \$30,000.

The Prospect Place Hospital is a new private institution at Cedar Rapids, Ia. Dr. Sherlock is in charge.

The Hertzler Hospital at Halstead, Kan., is having plans drawn for a three-story addition, estimated to cost \$35,000.

A new six-story addition in course of construction for St. Francis Hospital, Peoria, Ill., is expected to be under roof within a short time.

Plans are under way for the erection at Springfield, Ill., of a \$50,000 hospital by the Springfield branch of the United Mine Workers of America.

A \$75,000 building to house a new Methodist hospital has just been completed at Mitchell, S. D., and the hospital will probably be opened this month.

Dr. Vera V. Norton, for several years resident physician at the Edward Sanatorium, Naperville, Ill., has accepted a similar position in the Cincinnati Tuberculosis Sanitarium.

A new plant for the Muirdale Sanatorium, Milwaukee, Wis., which was destroyed by fire two years ago, has lately been completed. The sanatorium is maintained by the county.

Dr. W. W. White's private hospital at Ravenna, O., has been acquired by the county and will be opened in January.



Swiftness of Preparation

Occasionally a busy nurse finds time to sit down and write a dozen words or so in appreciation of a device or a product that has helped her in her work.

From City Hospital, Fall River, an experienced nurse writes that "The Chief factor in favor of Jell-O in hospital use is the swiftness of preparation."

The word swift had never occurred to us as aptly designating the process of making up Jell-O dishes, and we are indebted to a bright nurse for the suggestion.

To produce a dainty, attractive and delicious dish that will tempt the appetite of *anybody*, sick or well, by adding boiling water to a little

JELL-O

and spending only a minute in doing it, might seem impossible if it were not known to be a process in constant use in American hospitals and American homes.

And the more substantial dishes are made almost as easily and quickly as the simplest plain one, and they cost little more. In making these, Jell-O can, if desired, be whipped with an egg beater just as cream is whipped, and whipped Jell-O is taking the place of cream and eggs in many Jell-O dishes.

Pure Fruit Flavors

Jell-O is put up in seven pure fruit flavors: Strawberry, Raspberry, Lemon, Orange, Cherry, Peach, Chocolate.

The pure fruit flavors are preserved in full strength by the airtight waxed paper safety bags enclosing Jell-O inside the package.

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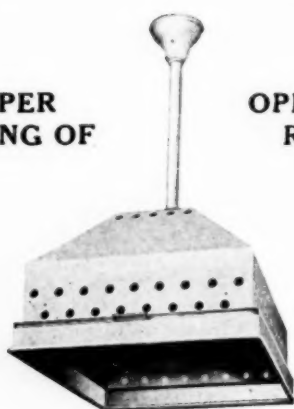


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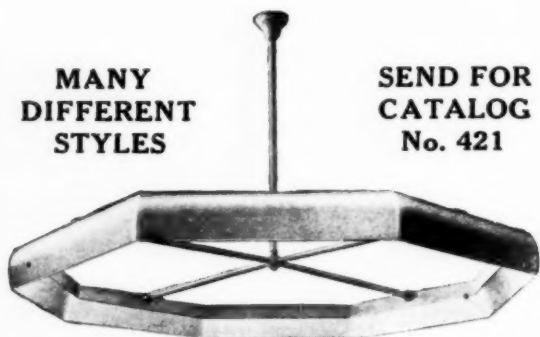
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as a public institution. The hospital accommodates 25 patients.

Dr. Oscar J. Raeder, assistant superintendent of the City Sanitarium, St. Louis, has resigned this position to pursue studies in neuropathology at the Boston Psychopathic Hospital.

An addition to the Hennepin County tuberculosis sanatorium at Glen Lake, Minn., providing 44 additional beds, was opened November 24. The capacity of the sanatorium is now 100 beds.

The District Tuberculosis Hospital is a new institution at Chillicothe, O., established jointly by Fayette, Ross, Scioto, Highland, Jackson, and Pike counties. A \$50,000 plant has been erected.

Plans have recently been completed for a new \$50,000 home for St. Olaf's Hospital, Austin, Minn. The building will be of brick construction, with terra cotta trim, and will accommodate 30 patients.

Dr. William J. Anderson, surgeon for the House of Correction in Chicago, has been appointed superintendent of the Scandinavian Hospital, Iron Mountain, Mich., succeeding Dr. Otto Alving, resigned.

Plans have been completed by Architects Richards, McCarty and Bulford, of Columbus, O., for the first unit of a new home for the Wesley Hospital, Wichita, Kan. The building is estimated to cost \$200,000.

The city of Aurora, Neb., has recently been offered a modern residence property for use as a hospital, with the provision that the building is to be made fireproof and the hospital opened to all citizens on equal terms.

The Wisconsin State Board of Control is making plans for a new tuberculosis sanatorium to be erected in the northern part of the state, also for a new unit at the present state sanatorium at Wales, work on both projects to be started in the spring.

Miss Olive M. Bayer, R. N., of Altoona, Pa., after having completed a course in hospital administration at the Grace Hospital, Detroit, Mich., has recently accepted a position as instructress of nurses at the University Hospital, Kansas City, Mo.

A tuberculosis sanatorium to be erected jointly by Ashland, Bayfield, and Iron counties, Wisconsin, is said to be a certainty, all three counties having made appropriations for the establishment of the institution, which is to cost, complete, about \$90,000.

A new fireproof home for the Mercy Hospital, Toledo, O., which was established in temporary quarters last spring, is nearing completion. The new building is of concrete construction, faced with brick. It is five stories high and has a capacity of 100 beds.

Miss Jennie Abramson, R. N., superintendent of the Copper Range Hospital, Trimountain, Mich., has recently been granted leave of absence to do Red Cross work in France, where she has been made assistant superintendent of nurses of the Detroit College of Medicine Base Hospital No. 36.

Preliminary plans have been drawn for a new unit for the Indianapolis City Hospital, to be devoted to the care of patients suffering from contagious diseases. A two-story brick and concrete building, conforming to the architecture of the main hospital, is proposed. The cost is estimated at \$90,000.

St. Joseph's Hospital, Ashland, Wis., conducted by the Catholic order of Poor Handmaids of Jesus Christ, has recently opened a two-story and basement fireproof addition, the basement to be used for laundry and storage, and the upper floors for nurses' quarters. New, electrically propelled laundry machinery has been installed.

A campaign by which the Columbia Hospital, Milwaukee, sought to raise \$500,000 to pay for a fine new plant now under construction, was brought to a successful close November 28, when subscriptions amounting to \$550,000 were announced. The improvements will include a nurses' home to cost \$85,000, and for which a building permit has just been issued.

According to Minneapolis newspapers, the authorities of

A Writer in "Good Housekeeping"

says: "In frying, fats are usually heated to smoking point, when they decompose and some of the products evolved are irritating to the intestinal canal. This is why burned butter is unwholesome and why doughnuts and other foods fried in lard heated to the smoking point are indigestible. Animal fats smoke at a much lower temperature than vegetable oils do. For this reason the vegetable product is a much better medium for frying."

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the University of Minnesota are hopeful of receiving, in the near future, a gift of \$1,000,000 from the Rockefeller Foundation for enlarging the University Hospital. The present capacity of the hospital is 194 beds. The regents wish to provide facilities for the care of at least 500 patients at a time.

Prominent negro citizens of Kansas City, have launched a campaign to raise \$25,000, with which it is proposed to purchase the former St. Joseph Catholic School building at 1826 Forest avenue and fit it up as a new home for the Wheatley-Provident Hospital, an institution devoted exclusively to the care of negro patients. If the plan is carried out, the capacity of the hospital will be increased to 60 beds.

Charles R. Robel, 25, superintendent of the Lord Lister Hospital, operated in Omaha, Neb., by Dr. E. C. Henry, was killed, and his parents, three brothers, a sister and an aunt were injured November 30, when an automobile in which they were riding was overturned near Oakland, Ia. Mr. Robel had been associated with the hospital since he was ten years of age, having served the institution as an office boy when it was known as the Omaha General Hospital.

Anent a report that certain Michigan counties are proposing, as a matter of economy, to locate county tuberculosis sanatoriums in connection with poorhouses, Dr. William DeKleine, of Detroit, former director of the Michigan tuberculosis survey, is quoted as saying that the plan is all wrong, and that by making a tuberculosis sanatorium a poor-farm institution, only those sufferers from tuberculosis who are normally paupers will avail themselves of the treatment it affords.

Dr. T. G. Yeomans, head of the St. Joseph Sanitarium, St. Joseph, Mich., has recently been appointed to the chair of Professor of Gynecology in the Homeopathic medical college of the University of Michigan. Dr. Yeomans organized the St. Joseph Sanitarium Company in 1915, and the institution was opened to patients in August of that year. It has increased in capacity from 5 to 20 beds. The doctor will continue to manage the sanitarium, spending about half his time in St. Joseph.

Southern States

It is reported that Dr. H. L. Fountain will rebuild his private sanatorium at Bryan, Tex., recently burned.

Construction work is well advanced on a \$100,000 building at Orange, Tex., for the proposed Lutzer Memorial Hospital.

Plans are being made by the city of Miami, Fla., to float a bond issue, which will include a fund for the erection of a hospital.

The tuberculosis hospital of the Central Kentucky Asylum for the Insane at Lakeland, near Louisville, was destroyed by fire November 26.

Bids were received in December by the trustees of the Georgia State Sanitarium at Milledgeville on the erection of a ward building, estimated to cost \$130,000.

It is reported from Bogalusa, La., that the Great Southern Lumber Company will erect and equip a \$20,000 clinic building in connection with the Bogalusa Hospital.

Dr. Edward M. Green, clinical director of the Georgia State Sanatorium, Milledgeville, has resigned to accept the position of superintendent of the Pennsylvania State Hospital for the Insane, at Harrisburg.

In a report to be made to the next Mississippi legislature by the superintendent of the state soldiers' home at Beauvoir, a request will be made for an appropriation of \$25,000 for the erection of a hospital in connection with the home.

At a meeting of the Warren County (Ky.) Medical Society, held at Bowling Green November 30, it was decided that this organization will undertake to raise \$25,000 toward the erection of a hospital in Bowling Green, provided the city will contribute an equal sum.

A site has been chosen at Wichita Falls for the proposed Northwest Texas Insane Asylum, and it is expected that the erection of the buildings will be started in the spring.

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An appropriation of \$400,000 was made by the last Texas legislature for the establishment of the institution.

Dr. H. E. Tuley, dean of the medical department of the University of Louisville, has been made superintendent of the Louisville City Hospital, following the resignation of Dr. J. W. Fowler.

Architects Eugene C. Wachendorff, of Atlanta, Ga., and H. Olin Jones, of Greenville, S. C., have completed working drawings for a new three-story and basement building for the Greenville City Hospital, to be used principally for surgery. Accommodations will be provided for 40 patients, and the cost is expected to be approximately \$60,000. The construction will be of reinforced concrete, with brick exterior, felt and gravel roofs, hollow terra cotta or metal lath partitions, smooth cement plaster, and tile and composition floors. Two operating rooms will be fitted up, and there will be a solarium for the benefit of convalescents.

Rocky Mountain and Pacific Coast States

St. Ann's Hospital, Anaconda, Mont., has recently installed complete new x-ray equipment.

The Alhambra Hospital, Alhambra, Cal., which has been closed for some time, will be reopened in January.

A new \$50,000 hospital, erected at Gallup, N. M., by the Sisters of the Poor of St. Francis, was dedicated November 29.

It is rumored that Dr. B. N. Childs, of Santa Ynez, Cal., will open a private hospital at that place in the near future.

A new, modern hospital, said to be the largest institution of its kind in southern Utah, has recently been opened at Price by Dr. C. T. Rose.

A hospital costing \$40,000 will be erected by the Nippon Hospital Association, a new organization at Seattle, Wash., it is announced.

Architect Edward Perry, of San Francisco, has been engaged to draw plans for a hospital to be built at Fairfield, Cal., for Solano County.

Construction work was started December 6 on a new home for the Rideout Memorial Hospital at Marysville, Cal., to cost between \$30,000 and \$40,000.

Dr. Leon G. Woodford, city health officer of Everett, Wash., has accepted an appointment as superintendent of the Snohomish County (Wash.) Tuberculosis Sanatorium.

A movement has been launched at Los Angeles to secure an appropriation from Congress for the erection of a fireproof hospital at the National Soldiers' Home, near that city.

St. Ignatius' Hospital at Colfax, Wash., which has recently been remodeled and enlarged at a cost of \$75,000, was reopened December 1. The capacity of the hospital has been increased to 75 beds.

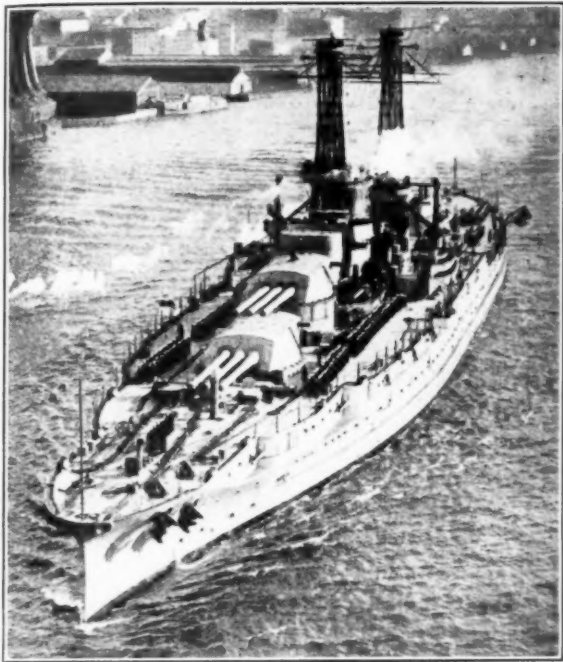
Miss Verda O. Ives, for five years superintendent of nurses at the Roosevelt Hospital, Berkeley, Cal., has recently been appointed head nurse at the Alameda County Hospital at San Leandro, near Oakland.

Miss Iva Ansell, head nurse at the Placerville Sanatorium, Placerville, Cal., for several years, has resigned to enter Red Cross service on the European battle front. She will be succeeded at the Sanatorium by Miss Etta Miller.

The city isolation hospital at Colorado Springs, Colo., has lately been enlarged. The facilities of the institution have also been improved by the installation of many conveniences with which it has not heretofore been equipped.

Mrs. C. J. Littlefield and Miss Margaret Weeks have opened a private hospital in Elko, Nev., with accommodations for eight patients. Since the Boling Hospital was closed last summer, Elko has been without an institution of this kind.

Plans for a new fireproof unit for the Edgecliffe Tuberculosis Sanatorium maintained near Spokane, Wash., by Spokane County, have been approved by the state board of health and the construction of the building will be started in the spring. The plans call for a three-story and



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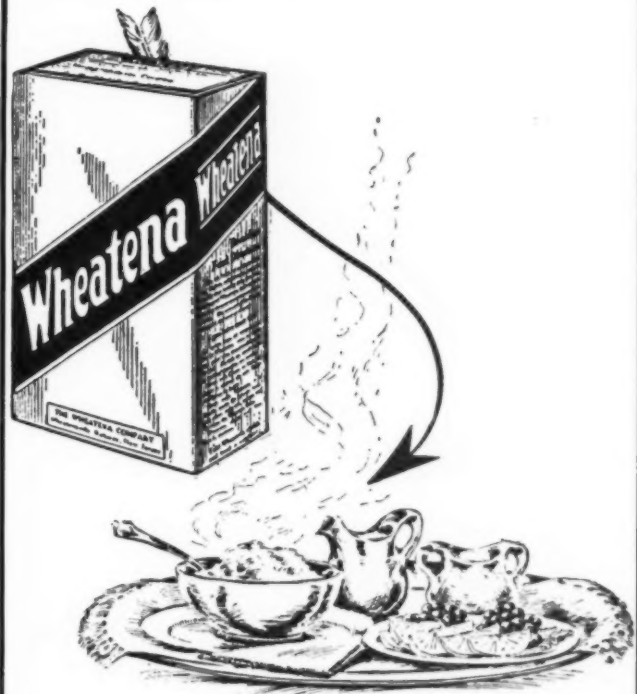
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basement structure, providing temporary quarters for nurses and space for 60 patients. Ultimately the rooms used by the nurses will be converted into hospital wards.

The Knights and Ladies of Security are planning to build a tuberculosis hospital somewhere in Colorado. Colorado Springs, Denver, and other cities are expected to offer sites. The same order proposes to establish a large home and general hospital at Topeka, Kan., in the near future.

The main building of the Star Ranch Sanatorium, located in the hills six miles from Colorado Springs, Colo., was burned December 9. Forty patients from the institution were removed at once to hospitals in Colorado Springs and suffered no ill effects, it is said. The loss is estimated at \$30,000.

A new \$50,000 hospital, to be headed by Dr. F. S. Dolley, is nearing completion at South San Francisco, Cal. The hospital is being built by a stock company whose members believe there is need for such an institution in the industrial district in which it is located. Forty-two beds for patients will be installed.

The Columbia Hospital, a new private institution, was opened in Butte, Mont., in December. It is nonsectarian, and all reputable physicians will be admitted to practice. A pathological laboratory will be maintained, and a part of the hospital has been set aside for maternity cases exclusively. Miss Emma Sales is the superintendent.

Miss Johanna Burns has resigned the superintendency of St. Luke's Hospital, Spokane, Wash., after an incumbency of 12 years. For three years before becoming superintendent, Miss Burns was a nurse in the institution. She will be succeeded by Miss Florence W. Taylor, who is a graduate of St. Luke's Hospital and has been Miss Burns' assistant.

A movement is under way at Bremerton, Wash., to reopen the Bremerton General Hospital, which has been closed for some time, owing to lack of sufficient paying patients to make it self-sustaining. It is now proposed to organize the hospital as a semi-benevolent institution, and raise funds by popular subscription to take care of deficits in its operating expenses.

S. M. Thompson, executive officer of the Alameda County (Cal.) County Institutions Commission, and who was soon to be made general manager of the Alameda County Hospital, a 500-bed institution at San Leandro, near Oakland, has resigned his office to join the United States aviation corps. He was expected to sail for France in December to enter upon his training.

The Fullerton Hospital, erected at Fullerton, Cal., two years ago, but never occupied, has recently been opened with Mrs. Griffin, of Los Angeles, in charge as superintendent. The new institution replaces a hospital conducted in Fullerton for a number of years by Dr. C. L. Rich, now deceased. Following Dr. Rich's death, a stock company was organized to erect the new building, but allowed the structure to fall into the hands of the contractors, and it has since remained in an unused state.

Dr. F. P. Van Denbergh, of Greeley, Colo., will shortly open in that city the Red Cross Hospital, a private institution with a capacity of 20 beds. An interesting feature of the interior arrangement is the doctor's plan to have the operating room far removed from the patients' rooms and nurses' quarters, the patients to be conveyed to and from the operating room by a rubber-tired stretcher, which can be raised or lowered to the level of the bed or the operating table, and the top of stretcher detached and slipped over on the operating table if desired. The hospital will be under the direct supervision of Miss Ella Border.

Canada

Hotel Dieu, a large hospital and home at St. Hyacinthe, Que., was destroyed November 28 by a fire in which the local chief of police lost his life. The inmates, about 1,000 in number, including aged persons and children, were safely removed. The institution was established in 1840, and its plant at the time of the fire consisted of three large stone buildings, erected at a cost of \$600,000.